

US EPA RECORDS CENTER REGION 5



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**PRELIMINARY ASSESSMENT/  
VISUAL SITE INSPECTION**

**SANCAP ABRASIVES, INC.  
ALLIANCE, OHIO  
OHD 093 289 700**

**FINAL REPORT**

**Prepared for**

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Waste Programs Enforcement  
Washington, DC 20460**

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## EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Sancap Abrasives, Inc. (Sancap Abrasives) facility in Alliance, Stark and Mahoning Counties, Ohio. The facility property is located in both Stark and Mahoning Counties. The facility building is located in Stark County, Ohio. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs identified.

Currently three businesses occupy the Sancap Abrasives facility: Sancap Abrasives; Sancap Liner, Inc. (Sancap Liner); and Quality Repair and Maintenance (QRM). All three businesses operate under the original Sancap U.S. EPA identification number. Sancap Abrasives manufactures coated abrasives, primarily sandpaper. Sancap Liner produces coated products, primarily bottle cap liners. QRM is responsible for maintaining the equipment at Sancap Abrasives and Sancap Liner. The facility generates and manages the following waste streams: methylene chloride (F002); methylene chloride still bottoms (F002); nonhazardous wastewater; abrasive and liner trim; used oil; and hardened resin. Sancap Abrasives and Sancap Liner currently operate as small quantity generators of hazardous waste. The Sancap Abrasives facility occupies 280 acres in a mixed-use residential and agricultural area in Alliance, Ohio, and employs about 110 people. On November 18, 1980, Sancap Abrasives submitted a RCRA Part A permit application for the Regulated Hazardous Waste Storage Area (SWMU 1). On June 25, 1982, Sancap requested withdrawal of the hazardous waste storage permit because it was not storing hazardous wastes on site for greater than 90 days. Sancap completed closure of SWMU 1 in 1983. OEPA approved withdrawal of the Part A permit application on November 14, 1983. No sampling activities were required as part of this closure.

The PA/VSI identified the following nine SWMUs at the facility:

### Solid Waste Management Units

1. Former Regulated Hazardous Waste Storage Area
2. Current Hazardous Waste Accumulation Area
3. Settling Lagoons
4. Wastewater Sumps
5. Wastewater Pretreatment Unit
6. Abrasive Roll-Off Box
7. Still
8. Used Oil Storage Drum
9. Liner Roll-Off Box

The facility originally operated as Turner Aircraft (Turner). During World War II, Turner manufactured light observation aircraft. Turner went bankrupt and the facility was bought in 1948 by Armour Meat Packing. Armour used the facility to manufacture upholstery and adhesives. These operations used animal glues manufactured from animals slaughtered by Armour Meat Packing. In 1970, Greyhound Motor Coach bought the facility and owned it for approximately two weeks. No additional information was available on Greyhound's operations. Greyhound sold the facility to a subsidiary of Azko Corporation, which operated the facility as Armak Corporation. Armak manufactured coated abrasives and liners at the facility. In 1978, Swiss Industrial Abrasive (SIA) purchased the facility and renamed it Sancap Abrasives. In 1986, SIA changed the facility's name from Sancap to SIA America. Facility operations remained the same. In 1988, Robert Stuhlmiller purchased the liner coating division and renamed it Sancap Liner. In 1992, Stuhlmiller purchased the abrasive operations division and renamed it Sancap Abrasives. QRM began operations in February 1992. Stuhlmiller currently owns both Sancap Abrasives and Sancap Liner. QRM is owned by Tom Chiappini and Chuck Sefert.

From 1977 to 1987, Sancap Abrasives discharged wastewater from abrasive coating clean up operations to the Settling Lagoons (SWMU 3). According to a Sancap representative, in the early 1980's, the Sancap facility was required to either close or line the Settling Lagoons (SWMU 3). In 1987, Sancap chose to close the lagoons, and hired a contractor to conduct sampling as part of the closure. Sancap is currently completing a non-RCRA closure of these lagoons.

The potential for release from all SWMUs to groundwater and surface water is low. SWMUs 1, 2, 7, and 8 are located indoors on concrete floors, and manage waste in containers with capacities of 55 gallons or less. SWMU 6 manages a nonliquid waste and is on a concrete pad. SWMU 9 is closed on all sides and is located on a concrete pad. SWMU 5 manages a potentially caustic wastewater in a dedicated room with a concrete floor. SWMU 4 is lined with an impervious liner to prevent releases. Ground water sampling downgradient of the Settling Lagoons (SWMU 3) does not indicate elevated concentrations of constituents present in the settling lagoon sediment. In addition, the soils in SWMU 3 have a low permeability and may act as a natural liner.

The potential for release to air from SWMUs 1, 2, 3, 4, 5, 6, 7, and 8 is low. SWMUs 1, 2, 7, and 8 manage wastes in closed containers. SWMUs 3 and 4 manage nonvolatile aqueous wastes in closed containers. SWMU 5 manages an aqueous waste containing nonvolatile constituents. SWMU 6 manages a nonliquid waste in a closed container. The potential for release from SWMU 9 is moderate to high. Methylene chloride still bottoms (F002) are disposed of into SWMU 9. Any entrained liquid could volatilize and be released because SWMU 9 is not tightly sealed.

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A release to on-site soils has occurred from SWMU 3. Both water and sediment in SWMU 3 have indicated elevated concentrations of phenol, total organic carbon, and barium. The potential for release from SWMUs 1, 2, 4, 5, 6, 7, 8, and 9 is low. SWMUs 1, 2, 7, and 8 are located on concrete floors and manage waste in containers with capacities of 55 gallons or less. SWMU 6 manages a nonliquid waste in a closed container. SWMU 5 manages a potentially caustic wastewater in a dedicated room with a concrete floor. SWMU 4 is lined with an impervious liner in order to prevent releases.

The nearest residence is located 100 feet south of the facility. Facility access is partially restricted by a 6-foot fence along the southern and eastern sides of the facility. The nearest surface water body, the Mahoning River, is located 1 mile west of the facility and is used for surface drainage. The Deer Creek Reservoir, which is located about three miles northwest of the facility, is used as a municipal drinking water source. Ground water is used as a drinking water supply for the area. The nearest drinking water well is located 500 feet southwest and downgradient of the facility. Sensitive environments are not located on site. The nearest sensitive environment, located 2,000 feet northwest of the facility, is a permanent palustrine open water system that is permanently exposed.

PRC recommends that the facility manage and dispose of the methylene chloride still bottoms (F002) as a hazardous waste. PRC also recommends that the facility continue with closure activities for the Settling Lagoons (SWMU 3). PRC also recommends that the facility arrange for the disposal of drums of hardened resin in the Former Regulated Hazardous Waste Storage Area (SWMU 1). PRC recommends no further action for all other facility SWMUs.

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## 1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has usually exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading or unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where a strong possibility exists that such a release might occur in the future.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff; inspecting the entire facility to identify all SWMUs and AOCs; photographing all visible SWMUs; identifying evidence of releases; making a preliminary selection of potential sampling parameters and locations, if needed; and obtaining additional information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Sancap Abrasives, Inc. (Sancap Abrasives) facility (EPA Identification No. OHD 093 289 700) in Alliance, Stark and Mahoning Counties, Ohio. The facility property is located in both Stark and Mahoning Counties. The facility building is located in Stark County, Ohio. The PA was completed on October 26, 1992. PRC gathered and reviewed information from the Ohio Environmental Protection Agency (OEPA) and from EPA Region 5 RCRA files. PRC also used information from the U.S. Department of Agriculture (USDA), U.S. Department of Commerce (USDC), U.S. Department of the Interior (USDI), Federal Emergency Management Agency (FEMA), and the U.S. Geologic Survey (USGS). The VSI was conducted on October 27, 1992. It included interviews with

facility representatives and a walk-through inspection of the facility. PRC identified nine SWMUs and no AOCs at the facility.

The VSI is summarized and 14 inspection photographs are included in Attachment A. Field notes from the VSI are included in Attachment B. Analytical results from ground-water sampling conducted at the Settling Lagoons (SWMU 3) are included in Attachment C. Analytical results from the hardened resin are included in Attachment D.

## **2.0 FACILITY DESCRIPTION**

This section describes the facility's location; past and present operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors.

### **2.1 FACILITY LOCATION**

The Sancap Abrasives facility is located at 16123 Armour Street N.E. in Alliance, Stark and Mahoning Counties, Ohio. Currently three businesses are located at the former Sancap Abrasives facility: Sancap Abrasives; Sancap Liner Technology, Inc. (Sancap Liner); and Quality Repair and Maintenance (QRM). The facility's Part A permit application was originally submitted by Sancap Abrasives. Figure 1 shows the location of the facility in relation to the surrounding topographic features (latitude 40°56'45" N and longitude 81°05'30" W). The facility occupies 280 acres in a mixed-use residential and agricultural area.

The facility is bordered on the north by a wooded area and strip mines, and on the west, south, and east by residences and farms.

### **2.2 FACILITY OPERATIONS**

Currently three separate businesses occupy the facility building: Sancap Abrasives; Sancap Liner; and QRM.

Sancap Abrasives, located on the west side of the facility, manufactures several different coated abrasives, but it primarily produces sandpaper. The abrasive coating process is begun by applying adhesives and abrasive grains to the backing of either paper or cloth web. Then the coated web is dried in an oven. Finally, the coated web is reduced to various sizes by converting operations to make disks and belts. Raw materials used in the manufacturing process include resins, animal glues, silica carbide grains, aluminum oxide grains, paper, and cloth.

Sancap Liner, located on the east side of the facility, produces several different coated products, but it primarily produces bottle cap liners. Operations at Sancap Liner consist of receiving rolls of uncoated liners, placing the rolls on coating machines, and then coating the rolls with adhesives, polyvinyl acetate, or paraffin. Excess material is then trimmed from these rolls. The coated rolls are then printed and shipped to an off-site facility for stamping. Operations at Sancap Liner are conducted under the supervision of the Food and Drug Administration, since these operations involve food packaging.



QRM is located between Sancap Abrasives and Sancap Liner. QRM performs maintenance on machinery at both facilities. Operations include changing oils, maintaining equipment, and some metal cutting. QRM began operations in February 1992.

The facility occupies 280 acres. The Settling Lagoons (SWMU 3) are located north of the coating area in Sancap Abrasives. North of the Settling Lagoons is a wooded area used by employees for hunting and fishing. The portion of the facility northeast of the main building was formerly an airport and a dilapidated runway is visible in this area. An aircraft hangar is located at the eastern edge of the facility and is currently used to store furniture and unsalable products. The primary building at the facility occupies 625,000 square feet. The Sancap Abrasives facility contains a 700-foot-long cloth and paper adhesive coating line, the Wastewater Pretreatment Unit (SWMU 5), and storage areas. The Sancap Liner facility contains converting operations and a lab which performs physical measurements on the liners. A separate building, the chemical product storage building, contains the Current Hazardous Waste Accumulation Area (SWMU 2), which includes product storage area, and the Former Regulated Hazardous Waste Storage Area (SWMU 1). The facility also has two 20,000 gallon aboveground storage tanks in a diked area; these tanks formerly contained heating oil. The ovens and boilers at the facility currently use natural gas. A 6-foot fence is located along the southern and western sides of the facility. The facility employs about 110 people.

The Sancap Abrasives facility originally operated as Turner Aircraft (Turner). During World War II, Turner manufactured light observation aircraft. Turner went bankrupt and the facility was bought in 1948 by Armour Meat Packing. Armour used the facility for upholstery and adhesive operations. These operations used animal glues manufactured from animals slaughtered by Armour Meat Packing. In 1970, Greyhound Motor Coach bought the facility and owned it for approximately two weeks. No additional information on Greyhound operations was available. Greyhound sold the facility to a subsidiary of Azko, which operated the facility as Armak Corporation. Armak manufactured coated abrasives and liners at the facility. In 1978, Swiss Industrial Abrasive (SIA) purchased the facility and renamed it Sancap Abrasives. In 1986, SIA changed the facility's name from Sancap Abrasives to SIA America. Facility operations remained the same. In 1988, Robert Stuhlmiller purchased the liner coating division and named it Sancap Liner. In 1992, Stuhlmiller purchased the abrasive operations division and renamed it Sancap Abrasives. QRM began operations in February 1992. Stuhlmiller currently owns Sancap Abrasives and Sancap Liner. QRM is owned by Tom Chiappini and Chuck Sefert.

### 2.3

### WASTE GENERATION AND MANAGEMENT

The facility currently generates the following hazardous and nonhazardous wastes: waste methylene chloride (F002); methylene chloride still bottoms (F002); nonhazardous wastewater; abrasive and liner trim; used oil; and hardened resin. In the past, the facility generated an additional waste solvent stream consisting of methyl ethyl ketone (MEK) (F005). The facility's SWMUs are identified in Table 1. The facility layout, including SWMUs, is shown in Figure 2. The facility's waste streams are summarized in Table 2.

Waste methylene chloride (F002) is generated from cleaning equipment used in the coating of bottle cap and food liners. The waste methylene chloride is accumulated in drums at the Still (SWMU 7) and recovered on site in the Still (SWMU 7). The still is operated about 8 hours, once every two weeks, distilling about 15 gallons per operation (PRC, 1992).

Methylene chloride still bottoms (F002) are generated when the Still (SWMU 7) is cleaned. According to the facility representatives, about once per year the Still (SWMU 7) was cleaned and a "handful" of bottoms are thrown into the Liner Roll-Off Box (SWMU 9). The Liner Roll-Off Box (SWMU 9) is emptied twice per week and is transported by Max Disposal to its transfer facility in Alliance, Ohio. The waste is then landfilled at one of the following landfills: G & G Landfill in Carrollton, Ohio; American Landfill in Malvern, Ohio; and Kimbell Landfill in Dover, Ohio.

Sancap Abrasives generates approximately 100 gallons of nonhazardous wastewater per day. Nonhazardous wastewater is generated from cleaning sumps and process equipment at the abrasive coating machine. The wastewater is collected in the east and west Wastewater Sumps (SWMU 4) and gravity fed to the central Wastewater Sump (SWMU 4). The wastewater is then pumped to the Wastewater Pretreatment Unit (SWMU 5) where the pH level of the wastewater is monitored. If necessary, the pH level is adjusted so the wastewater is within criteria set forth in the wastewater discharge permit issued to the facility by the City of Alliance. The wastewater is then discharged to the sanitary sewer. Until 1978, the wastewater was pumped from the center sump to the Settling Lagoons (SWMU 3) before the wastewater was pumped back to the facility and discharged to the city sewer system.

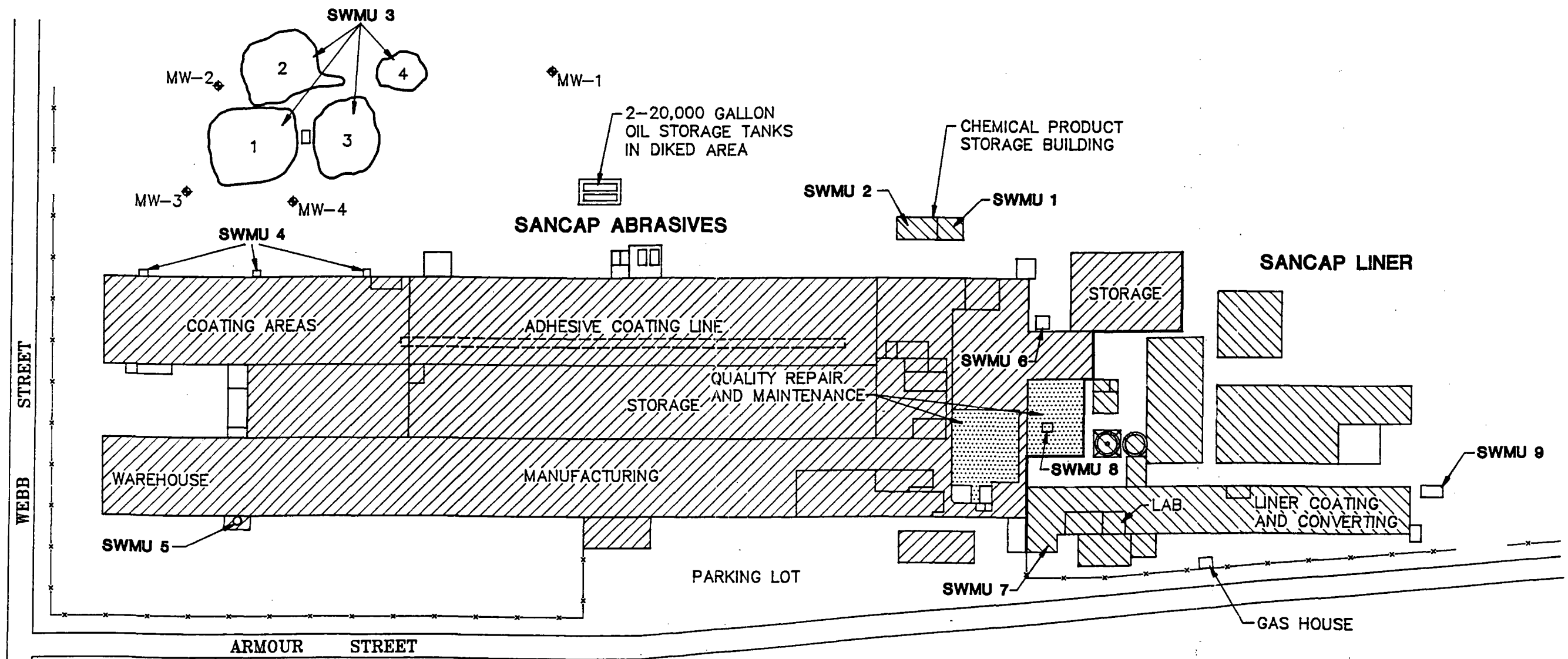
Abrasive and liner trim are generated by the converting operations at the Sancap Abrasive and Sancap Liner facilities. The excess abrasive trim is accumulated in the Abrasive Roll-Off Box (SWMU 6). Excess trim from Sancap Liner is accumulated in the Liner Roll-Off Box (SWMU 9). The roll-off boxes are emptied twice per week and the contents are transported by Max Disposal to its transfer facility in Alliance, Ohio. The waste is ultimately landfilled at

**TABLE 1**  
**SOLID WASTE MANAGEMENT UNITS**

<u>SWMU Number</u>	<u>SWMU Name</u>	<u>RCRA Hazardous Waste Management Unit<sup>a</sup></u>	<u>Status</u>
1	Former Regulated Hazardous Waste Storage Area	Yes	This unit was RCRA closed on November 14, 1983; currently stores nonhazardous waste
2	Current Hazardous Waste Accumulation Area	No	Inactive; this unit accumulated hazardous waste for less than 90 days
3	Settling Lagoons	No	Inactive
4	Wastewater Sumps	No	Active
5	Wastewater Pretreatment Unit	No	Active
6	Abrasive Roll-Off Box	No	Active
7	Still	No	Active
8	Used Oil Storage Drum	No	Active
9	Liner Roll-Off Box	No	Active

Note:

<sup>a</sup> A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.



**SOLID WASTE MANAGEMENT UNITS**

- SWMU 1** - FORMER REGULATED HAZARDOUS WASTE STORAGE AREA
- SWMU 2** - CURRENT HAZARDOUS WASTE ACCUMULATION AREA
- SWMU 3** - SETTLING LAGOONS
- SWMU 4** - WASTEWATER SUMPS
- SWMU 5** - WASTEWATER PRETREATMENT UNIT
- SWMU 6** - ABRASIVE ROLL-OFF BOX
- SWMU 7** - STILL
- SWMU 8** - USED OIL STORAGE DRUM
- SWMU 9** - LINER ROLL-OFF BOX

**LEGEND**

- SANCAP ABRASIVES**
- SANCAP LINER**
- QUALITY REPAIR AND MAINTENANCE**
- MONITORING WELL**

SANCAP ABRASIVES, INC.  
ALLIANCE, OHIO

**FIGURE 2**  
**FACILITY LAYOUT**

NOT TO SCALE **PRC** ENVIRONMENTAL MANAGEMENT, INC.

**TABLE 2**  
**SOLID WASTES**

<u>Waste/EPA Waste Code<sup>a</sup></u>	<u>Source</u>	<u>Solid Waste Management Unit</u>
Methylene Chloride/F002	Cleaning Equipment	7
Methylene Chloride Still Bottoms/F002	Recovering Solvents	7 and 9
Wastewater/NA	Abrasive Coating Line Cleanup	3, 4, and 5
Abrasive and Liner Trim/NA	Abrasive and Liner Converting Operations	6 and 9
Used Oil/NA	Equipment Maintenance	8
Hardened Resin/NA	Mixing Resins	1
MEK/F005 <sup>b</sup>	Cleaning Equipment	1 and 2

Notes:

<sup>a</sup> Not applicable (NA) designates nonhazardous waste.

<sup>b</sup> No longer generated

one of the following landfills: G & G Landfill in Carrollton, Ohio; American Landfill in Malvern, Ohio; and Kimbell Landfill in Dover, Ohio.

QRM generates used oil from various equipment maintenance activities. The used oil is accumulated in a 55-gallon steel drum at the Used Oil Storage Drum (SWMU 8). The waste is then transported by Safety-Kleen Corporation (Safety-Kleen) to the Safety-Kleen facility in Cleveland, Ohio. QRM generates 100 to 150 gallons of waste oil annually.

Hardened resin is generated from the manufacture of coated abrasives. After the self-hardening resins are applied to cloth or paper, the excess resin is placed in 55-gallon drums at the Former Regulated Hazardous Waste Storage Area (SWMU 1). The hardened resin is transported by Envirco Transportation, Inc., to American Landfill, Inc., in Waynesberg, Ohio. Sancap Abrasives generates about 144,000 pounds of this waste annually. Analytical results of this waste are included in Attachment D.

Until 1985 or 1986, Sancap Liner generated an MEK waste (F005) from cleaning equipment. This waste was accumulated in 55-gallon drums at the Former Regulated Hazardous Waste Storage Area (SWMU 1). After the Former Regulated Hazardous Waste Storage Area (SWMU 1) underwent RCRA closure on November 14, 1983, MEK waste (F005) was accumulated at the Current Hazardous Waste Accumulation Area (SWMU 2). This waste was transported off site for disposal. According to facility representatives, the waste MEK is no longer generated on site.

## **2.4 HISTORY OF DOCUMENTED RELEASES**

This section discusses the history of documented releases to ground water, surface water, air, and on-site soils at the facility.

From 1977 to 1987, SIA discharged wastewater from rinsing procedures associated with its manufacturing process into a series of Settling Lagoons (SWMU 3) located north of the plant. After a production run in the coated abrasives area, the coating equipment and coating tanks were cleaned. Before the next formulation, the coating tanks were washed with an aqueous alkaline solution. The wastewater from the cleaning process has been analyzed and found to be nonhazardous. OEPA was aware of this process and considered the wastewater nonhazardous (OEPA, 1983b).

The treatment of wastewater in the lagoons occurred as follows: (1) wastewater from the sumps was discharged to the receiving lagoon (Lagoon 1); (2) wastewater from Lagoon 1 was

combined with water from the rain water collection lagoon (Lagoon 3); and (3) the wastewater was then discharged via an aeration stream to the discharge lagoon (Lagoon 2). The wastewater was ultimately discharged to the City of Alliance sewer system. Lagoon 4 served only to provide soil for berm construction and occasionally dilution water. Another pond, north of Lagoon 4, was created after the excavation of material for lagoon berms (Lancy Environmental Services Company [Lancy], 1989).

According to a Sancap representative, in the early 1980's the Sancap facility was required to either close or line the Settling Lagoons (SWMU 3). In 1987, Sancap chose to close the lagoons, and hired a contractor to conduct sampling as part of the closure. Four ground-water monitoring wells were installed as part of the Site Evaluation Report of the Settling Lagoons (SWMU 3) prepared by Lancy in 1989. The locations of these wells are shown in Figure 2. Monitoring Well 1 was installed upgradient of the Settling Lagoons (SWMU 3) to provide background concentrations. The remaining three wells were installed downgradient of the Settling Lagoons (SWMU 3). The ground water samples from these wells were analyzed for priority pollutant compounds, excluding pesticides, contamination indicators, water quality indicators, metals, acetone, MEK, and total xylene.

Sampling and analysis of lagoon sediment and water conducted in 1988 indicated that Lagoons 1 and 2 exhibited the greatest impact from the treatment operation. Both water and sediment in these lagoons had elevated concentrations of phenol, total organic carbon, and barium. The barium concentration in Lagoon 3 suggested that it may have occasionally received wastewater. Hazardous waste determinations of the sediments in the lagoons indicated that the sediments were not ignitable, corrosive, or extraction procedure toxic. The sulfide reactivity in Lagoons 3 and 4 was recorded as 496 milligrams per liter (mg/l) or less than the limit of 500 mg/l for the reactivity characteristic. The lack of significant concentrations of wastewater constituents indicated that the sulfide reactivity in Lagoons 3 and 4 was associated with natural, swamplike conditions (Lancy, 1989). Ground water sampling downgradient of the Settling Lagoons (SWMU 3) did not indicate that elevated concentrations of the constituents present in the Settling Lagoons (SWMU 3) were present in other areas (Lancy, 1989).

According to Lancy, the wastes present in Lagoons 1, 2, and 3 were classified as residual wastes and the sediment in Lagoon 4 was classified as naturally occurring (Lancy, 1989). OEPA approved Sancap's closure plan on May 21, 1992 (OEPA, 1992a).

PRC found no other records of documented releases at the facility.

## 2.5

### REGULATORY HISTORY

Sancap Abrasives submitted a Notification of Hazardous Waste Activity Form to EPA on August 13, 1980 (Sancap Abrasives, 1980a). The facility indicated that it was a generator and storage facility. Sancap Abrasives submitted a RCRA Part A permit application on November 18, 1980 (Sancap Abrasives, 1980b). This application listed storage in containers with a 5,500-gallon capacity in the Former Regulated Hazardous Waste Storage Area (SWMU 1). The facility listed the F005 waste code annual generation rate as 10,000 pounds and D001 at 1,000 pounds. The facility also listed the following waste codes with the process description of "potential spill" and estimated annual quantities of 0: D002, U159, U220, U112, U125, U154, and U243 (Sancap Abrasives, 1980b).

On June 25, 1982, Sancap Abrasives requested withdrawal of the Part A permit application because they were not storing hazardous wastes on site for greater than 90 days (Sancap Abrasives, 1982). Sancap Abrasives completed RCRA closure SWMU 1 in 1983 (U.S. EPA, 1983). No sampling activities were required as part of this closure. OEPA approved withdrawal of the facility's permit on November 14, 1983 (OEPA, 1983c). The facility was issued a permit to install the closure of the Settling Lagoons on May 17, 1992 (OEPA, 1992a). Sancap Abrasives and Sancap Liner currently operate as small-quantity generators. Sancap Liner has reduced the quantity of waste sent off-site by recovering the waste solvents in a Still (SWMU 7) on site.

OEPA conducted RCRA compliance evaluation inspections in 1981 and 1983. No violations were noted during the 1981 inspection (OEPA, 1981). Violations noted during the April 1983 inspection included the following: (1) no chemical and physical analyses of wastes on file; (2) no waste analysis plan on file; (3) the facility did not control entry; (4) no inspection schedule and inadequate inspection frequency; (5) training deficiencies; (6) inadequate posting of the area; (7) contingency plan and operating record deficiencies; and (8) improper storage of hazardous waste (OEPA, 1983a).

Information gathered during the 1983 OEPA inspection indicated that the facility was treating resin wastes by allowing the resins to harden. An OEPA follow-up inspection concluded that the facility was not treating the waste since the resin was self-hardening. Sancap Abrasives had also substituted a water-based nonignitable solvent for the toluene-based adhesive, further reducing the quantity of hazardous waste generated by the facility (OEPA, 1983b).

The facility is required to have operating air permits. Sancap Abrasives has an air discharge permit for the 80-inch paper and cloth coating line. This permit expires November 7, 1994. The facility also operated a 45-inch coating line under an air discharge permit. Sancap Abrasives allowed this permit to expire because the 45-inch coating line is currently being rebuilt. The facility has not violated its air discharge permit. The facility has no history of odor complaints from area residents.

The Sancap Abrasive facility discharges wastewater from the Wastewater Pretreatment Unit (SWMU 5) under City of Alliance Permit Number 216-A. This permit is valid from March 1992 to June 1, 1993. The facility is required to monitor for the following parameters: flow; pH; biological oxygen demand; chemical oxygen demand; total nonfilterable solids; mercury; phenol; and zinc.

Sancap Abrasives discharges noncontact cooling water and storm water to an unnamed tributary of the Mahoning River by way of a roadside ditch under National Pollutant Discharge Elimination System (NPDES) permit number OH0063576. These discharges are monitored for flow rate, pH, and oil and grease (OEPA, 1992b). During the PA, PRC found no notices of violation issued for this permit.

## **2.6 ENVIRONMENTAL SETTING**

This section describes the climate; flood plain and surface water; geology and soils; and ground water in the vicinity of the facility.

### **2.6.1 Climate**

Because the facility building is located in Stark County, Ohio, climatic data for Stark county is presented. The climate in Stark County is continental. The average daily temperature is 60.0 degrees Fahrenheit (°F). The lowest average daily temperature is 20.7 °F in February. The highest average daily temperature is 83.2 °F in July (USDA, 1971).

The total annual precipitation for the county is 36.43 inches (USDA, 1971). The mean annual lake evaporation for the area is about 31 inches (USDC, 1968). The 1-year, 24-hour maximum rainfall is about 2.25 inches (USDC, 1963).

The prevailing wind is from the south. Average wind speed is about 10 miles per hour. The average wind speed is slightly stronger in winter than summer (USDA, 1971).

## **2.6.2 Flood Plain and Surface Water**

The Sancap Abrasives facility is not located in a 100-year flood plain (FEMA, 1983).

The nearest body of surface water is the Mahoning River which is located 1 mile west of the facility. The Mahoning River discharges to the Beaver River, which discharges to the Ohio River. Other bodies of surface water in the area include Berlin Lake, about three miles northwest of the facility, and the Deer Creek Reservoir, which is located three miles northwest of the facility. The City of Alliance uses the Deer Creek Reservoir as a source of municipal water.

Storm water from the facility flows from the NPDES-permitted outfall into a ditch which discharges into an unnamed tributary of the Mahoning River.

## **2.6.3 Geology and Soils**

Soils at the facility are classified as (1) Wadsworth silt loam and (2) Remsen silt loam. The Wadsworth silt loam is typically a grayish-brown silt loam from a depth of 0 to 7 inches; a brownish-yellow silty clay loam from 7 to 12 inches; a brown, silty clay loam from 12 to 20 inches; and a mottled-brown, clay loam fragipan from 20 to 31 inches. Below the fragipan is a brown clay loam that extends to a depth of 48 inches. This soil overlies a calcareous soil material that extends to 60 inches. The Remsen silt loam is typically a dark grayish-brown silt loam from a depth of 0 to 7 inches and a mottled-brown, silty clay loam from 7 to 29 inches. At approximately 36 inches, there is a dark, yellow-brown layer 10 inches thick that overlies a yellowish-brown silty clay glacial till. The permeability of the subsoil and glacial till is very low; therefore, they have a high seasonal water table. The depth to calcareous soil material ranges from 28 to 46 inches (Lancy, 1989).

Both the Wadsworth and Remsen soils typically contain high percentages of silt and clay and have low permeabilities. The Wadsworth, which contains 70 to 90 percent silt and clay, contains intervals having permeabilities as low as 0.063 to 0.2 inch per hour or  $0.5$  to  $17 \times 10^{-3}$  centimeters per second (cm/sec). The Remsen, which typically contains 90 to 95 percent silt and clay, contains intervals having permeabilities as low as 0.063 inch per hour or  $0.5 \times 10^{-3}$  cm/sec. According to Lancy, the soils in the Settling Lagoons (SWMU 3) may have acted as a natural liner for the lagoons because of their textural and permeability characteristics (Lancy, 1989).

Glacial till that was deposited during Wisconsinan glaciation underlies the soil intervals in the site area. The shallowest glacial deposit in the area is the Hiram Till, which is a thin (less than 2 feet thick) clay with very little sand or gravel. At the Sancap Abrasive facility, the

Lavery till may also be present beneath the Hiram Till. The thickness of the till beneath the facility is unknown. Generally, till thickness increases dramatically toward the Mahoning River Valley, which is located west of the facility. In Stark County, where till deposits contain thick permeable sand and gravel, high ground water yields have been recorded (Lancy, 1989).

Pennsylvanian-age Pottsville Group rocks consisting of coals, shales, sandstones, and thin limestones occur beneath the glacial till. The bedrock surface dips gently to the southwest (Lancy, 1989).

Site specific soil borings were conducted during a ground-water investigation of the Settling Lagoons (SWMU 3). The interval penetrated during the boring program consists of a dense, very firm, clay-dominated glacial till that was deposited during the Wisconsin glacialation. This till, encountered at depths of 33 to 43 feet below grade, also contains traces of coarse-grained sand and very fine gravel, and is calcareous in several places (Lancy, 1989).

At the upgradient well location, the clay-rich till grades to a silty, very fine-grained sand interval at 42 feet. At all downgradient well locations, the sand and gravel content of the till increases significantly at depths ranging from 33 to 43 feet below grade (Lancy, 1989).

#### 2.6.4 Ground Water

All water-bearing zones encountered during well installation and monitoring, except for one, were found below the base of the clay-rich till. The exception is a small perched zone found at a depth of 16 to 18 feet in Monitoring Well 1. Upon penetration, this zone yielded only very small amounts of water. The intergranular permeability of the clay-rich till is expected to be on the order of  $10^{-3}$  feet per day ( $10^3$  cm/sec) or less. Permeability of the deeper, coarser-grained intervals encountered below the base of the clay till should be considerably higher than that of the till. Water encountered in these intervals is under confined pressure, and it typically rises 10 feet or more above the top of the water bearing formation. Ground-water depths in the region typically vary from 22 to 25 feet below ground surface. Ground water flow direction is generally to the southwest. The hydraulic gradient of the confined zones is approximately 0.01 foot per foot (Lancy, 1989).

Ground water in the area is used as a private drinking water source. The nearest downgradient drinking water well is located 500 feet southwest of the facility (Lancy, 1989).

The facility occupies 280 acres in a mixed-use, residential and agricultural area in Alliance, Ohio. Alliance has a population of about 20,000. The facility is bordered on the north by a wooded area and strip mines, and on the west, south, and east by residences. The nearest residence is located about 100 feet south of the facility. Facility access is partially restricted by a 6-foot fence along the southern and western sides of the facility. There is no fence along the eastern and northern sides of the facility.

The nearest body of surface water is the Mahoning River which is located 0.5 mile west of the facility and is used for surface runoff. Surface water flows from the Mahoning River to the Beaver River, and then to the Ohio River. The Deer Creek Reservoir, which is located about 3 miles northwest of the facility, is used as a source of municipal drinking water for the City of Alliance.

Ground water in the area is used as a private drinking water supply. The nearest drinking water well is located 500 feet upgradient of the facility. The facility has installed four ground-water monitoring wells on site as part of the closure of the Settling Lagoons (SWMU 3) (Lancy, 1989).

No sensitive environments are located on site. The nearest sensitive environment, located 2,000 feet northwest of the facility, is a permanent palustrine open water system that is permanently exposed (USDI, 1976).

### 3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the nine SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC's observations. Figure 2 shows the SWMU locations.

#### **SWMU 1**

#### **Former Regulated Hazardous Waste Storage Area**

**Unit Description:**

This unit consists of a 60-foot by 50-foot area on the eastern part of the Chemical Product Storage Building. The unit has a concrete floor and no floor drains were located in the area. This unit used to store 55-gallon drums containing waste MEK. This unit is currently used to store nonhazardous hardened resins in open 55-gallon drums (see Photograph No. 1).

**Date of Startup:**

This unit began operations in 1980.

**Date of Closure:**

OEPA approved withdrawal of the Part A permit application on November 14, 1983. This unit currently manages nonhazardous hardened resin.

**Wastes Managed:**

This unit used to store waste MEK (F005). It currently stores drums of nonhazardous hardened resin.

**Release Controls:**

The drums are stored indoors on a concrete floor.

**History of  
Documented Releases:**

There have been no documented releases from this unit.

**Observations:**

PRC observed approximately 120 drums of hardened resin stored in the area in open 55-gallon steel drums. According to facility representatives, this hardened resin had been left by SIA before the facility was sold to Robert Stuhlmiller in 1992. PRC did not note any signs of spills, leaks or solvent odor at the time of the VSI.

## **SWMU 2**

### **Current Hazardous Waste Accumulation Area**

#### **Unit Description:**

This unit consists of a 10-foot by 10-foot area in the western portion of the Chemical Product Storage Building. This unit was used to accumulate 55-gallon drums of waste MEK (F005) for less than 90 days. The waste was stored indoors on a concrete floor. The unit is equipped with a ventilation system to prevent the buildup of flammable vapors (see Photograph No. 2).

#### **Date of Startup:**

This unit began operations around 1983.

#### **Date of Closure:**

This unit has been inactive since around 1985 or 1986. Sancap Abrasives and Sancap Liner stated they recycle all waste on site and no longer use the area for waste accumulation.

#### **Wastes Managed:**

This unit managed waste MEK (F005).

#### **Release Controls:**

Waste was stored indoors on a concrete floor.

#### **History of Documented Releases:**

There have been no documented releases from this unit.

#### **Observations:**

PRC observed no hazardous waste being accumulated at the unit at the time of the VSI. PRC observed oil-type stains throughout the building and in the waste storage area. Numerous product drums were stored throughout the building.

## **SWMU 3**

### **Settling Lagoons**

#### **Unit Description:**

This unit consists of four lagoons: (1) Lagoon 1 - 140 by 130 by 4 feet; (2) Lagoon 2 - 170 by 120 by 4 feet; (3) Lagoon 3 - 140 by 140 by 3 feet; (4) Lagoon 4 - 120 by 120 by 3 feet. The unlined lagoons were all dug by SIA into native soil. SIA discharged wastewater from equipment cleanups into a series of settling lagoons. The wastewater was initially discharged to Lagoon 1. The wastewater was then discharged along with wastewater from Lagoon 3 into Lagoon 2. The combined wastewaters from Lagoon

2 were then discharged to the City of Alliance sanitary sewer system. According to facility representatives, Lagoon 4 was used to provide soil for berm construction, but was occasionally used as a source of dilution water (see Photographs No. 3, 4, 5, and 6).

Date of Startup:	The unit began operation in 1977.
Date of Closure:	Sancap Abrasives stopped using this unit in 1987. Sancap Abrasives is currently conducting a non-RCRA closure of this unit under guidance from OEPA.
Wastes Managed:	This unit managed wastewater from the cleaning of the abrasive coating line. The wastewater was then discharged to the City of Alliance sewer system under the facility's wastewater discharge permit.
Release Controls:	No release controls were located at this unit.
History of Documented Releases:	Wastewater from the abrasives coating line cleanup was discharged to the unlined lagoons from 1977 to 1987. Sampling and analyses of lagoon sediment and water conducted in 1988 indicated that Lagoons 1 and 2 exhibited the greatest impact. Both ground-water and sediment from these lagoons had elevated concentrations of phenol, total organic carbon, and barium. Hazardous waste determinations of the sediments in the lagoons indicated that the sediments were not ignitable, corrosive, or extraction procedure toxic. Lagoons 3 and 4 had elevated sulfide reactivity levels, which were attributed to natural swamplike conditions. See Section 2.4 for additional information.
Observations:	PRC observed water in the lagoons at the time of the VSI. According to facility representatives, this water consisted of rainwater and the high ground water in the area. PRC observed that there were no active pumping operations at the time of the VSI. The former pumphouse and associated piping were rusted and in disrepair.

**SWMU 4****Wastewater Sumps****Unit Description:**

This unit consists of three outdoor, underground, lined, concrete sumps: east, west, and central. The east and west sumps gravity-feed into the central sump. The sumps have the following dimensions (length by width by height): west, 15 by 10 by 5.5 feet; central, 12 by 6 by 10 feet; east, 15 by 10 by 6.5 feet (see Photographs No. 7, 8, and 9). Wastewater is pumped from the central sump to the Wastewater Pretreatment Unit (SWMU 5). Until 1988, the wastewater was pumped from the Wastewater Sumps to the Settling Lagoons (SWMU 3).

**Date of Startup:**

This unit began operations in 1977.

**Date of Closure:**

This unit is currently active.

**Wastes Managed:**

This unit manages wastewater from the cleaning of the abrasive coating line. The wastewater is pumped from the wastewater sumps to the Wastewater Pretreatment Unit (SWMU 5).

**Release Controls:**

The sumps are lined with an impervious liner.

**History of  
Documented Releases:**

There have been no documented releases from this unit.

**Observations:**

PRC observed soapy water in the wastewater sump during the VSI. PRC did not note any solvent odors near this unit. PRC did not note any indications of release at this unit.

**SWMU 5****Wastewater Pretreatment Unit.****Unit Description:**

This unit consists of a 1,500-gallon, aboveground fiberglass tank used to monitor and control pH of the wastewater from SWMU 4. The tank is located in a dedicated room near the southwest corner of the facility. It sits on four steel legs over a concrete floor. Sulfuric acid is used to maintain the pH of the discharge between 6 and 10. No drains are located near this unit (see Photograph No. 10).

<b>Date of Startup:</b>	This unit began operations in 1988.
<b>Date of Closure:</b>	This unit is currently active.
<b>Wastes Managed:</b>	This unit manages wastewater from the abrasive coating line cleanup. The water is then discharged to the City of Alliance sewer system under the facility's wastewater discharge permit, City of Alliance Permit Number 216-A.
<b>Release Controls:</b>	The tank is located indoors, in a dedicated room that has a concrete floor.
<b>History of Documented Releases:</b>	There have been no documented releases from this unit.
<b>Observations:</b>	PRC observed that there was some white crystalline staining on the floor around the unit. The staining was superficial and probably caused by a salt. PRC did not observe any indications of liquid spills at the unit.
<b>SWMU 6</b>	<b>Abrasive Roll-Off Box</b>
<b>Unit Description:</b>	This unit consists of a 40-cubic-yard steel roll-off box. The Abrasive Roll-Off Box manages waste trim from Sancap Abrasives and trash. The roll-off box is located outdoors, on a concrete pad. (see Photograph No. 11).
<b>Date of Startup:</b>	This unit began operations about 1985.
<b>Date of Closure:</b>	This unit is currently active.
<b>Wastes Managed:</b>	The Abrasive Roll-Off Box manages trim from Sancap Abrasives and trash. The Roll-Off Box is emptied twice per week and is transported by Max Disposal to its transfer facility in Alliance, Ohio. The waste is then landfilled at one of the following landfills: G & G Landfill in Carrollton, Ohio; American Landfill in Malvern, Ohio; and Kimbell Landfill in Dover, Ohio.

**Release Controls:** The unit is covered but has an opening into the building to facilitate loading of waste. The unit is located on a concrete pad.

**History of Documented Releases:** There have been no documented releases from this unit.

**Observations:** PRC did not observe any signs of spills or leaks at this unit.

**SWMU 7** **Still**

**Unit Description:** This unit consists of a steel still, located indoors, on a concrete floor. The still is about 2 by 2 by 3.5 feet in size. The unit is used to recover methylene chloride (F002) used to clean equipment and drip pans from Sancap Liner. The still has a capacity of 15 gallons when operated for 8 to 10 hours (see Photograph No. 12).

**Date of Startup:** This unit began operations around 1985 or 1986.

**Date of Closure:** This unit is currently active.

**Wastes Managed:** This unit manages waste methylene chloride (F002) used to clean equipment. The methylene chloride still bottoms (F002) from this unit are disposed of in the Liner Roll-Off Box (SWMU 9).

**Release Controls:** The unit is located indoors on a concrete floor.

**History of Documented Releases:** There have been no documented releases from this unit.

**Observations:** PRC did not observe any signs of spills or leakage at this unit.  
PRC did not observe any drains near this unit.

**SWMU 8** **Used Oil Storage Drum**

**Unit Description:** This unit consists of a 55-gallon steel drum located inside on a concrete floor. This drum is used to accumulate used oil from equipment that is maintained by QRM (see Photograph No. 13).

**Date of Startup:** This unit began operations in February 1992.

**Date of Closure:** This unit is currently active.

**Wastes Managed:** This unit manages waste oils that were generated by QRM during equipment maintenance. The waste oil is then taken to the Safety-Kleen facility in Cleveland, Ohio.

**Release Controls:** This unit is located indoors on a concrete floor. The drum is stored closed, with a covered funnel, unless waste is being added.

**History of Documented Releases:** There have been no documented releases from this unit.

**Observations:** PRC did not observe any signs of spills or leakage at this unit. One drum was on site at the time of the VSI.

**SWMU 9** **Liner Roll-Off Box**

**Unit Description:** This unit consists of a 40-cubic-yard roll-off box. The Liner Roll-Off Box manages waste trim from Sancap Liner. According to the Sancap Liner facility representative, when the Still (SWMU 7) is cleaned (about once a year), the methylene chloride still bottoms (F002) are thrown into the Liner Roll-Off Box for disposal. The Liner Roll-Off box is located outdoors, on a concrete pad in a covered area (see Photograph No. 14).

**Date of Startup:** This unit began operations around 1985.

**Date of Closure:** This unit is currently active.

**Wastes Managed:** The Liner Roll-Off Box manages trim and methylene chloride still bottoms (F002) from Sancap Liner. The Liner Roll-Off Box is emptied twice per week and its contents are transported by Max Disposal to their transfer facility in Alliance, Ohio. The waste is landfilled at one of the following landfills: G & G Landfill in

Carrollton, Ohio; American Landfill in Malvern, Ohio; and Kimbell Landfill in Dover, Ohio.

**Release Controls:**

The unit is covered on the top but has an opening into the building to facilitate loading of waste. The unit is located on a concrete pad.

**History of  
Documented Releases:**

There have been no documented releases from this unit.

**Observations:**

PRC did not observe any signs of spills or leakage at this unit.  
PRC did not observe methylene chloride still bottoms (F002) in the unit at the time of the VSI.

#### **4.0 AREAS OF CONCERN**

PRC identified no AOCs during the PA/VSI.

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## 5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified nine SWMUs and no AOCs at the Sancap Abrasives facility. Background information on the facility's location; operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. Following are PRC's conclusions and recommendations for each SWMU. Table 3, at the end of this section, summarizes the SWMUs at the facility and the recommended further actions.

### SWMU 1

#### Former Regulated Hazardous Waste Storage Area

##### Conclusions:

This unit consists of a 60-foot by 50-foot area on the eastern part of the Chemical Product Storage Building. This unit formerly stored 55-gallon drums of waste MEK for greater than 90 days. OEPA approved withdrawal of the Part A permit application for this unit on November 14, 1983. No sampling activities were required as part of this closure. This unit currently stores 55-gallon open-head steel drums containing hardened resin. There have been no documented releases from this unit. The resins are mixed as part of the abrasive coating process and the mixture subsequently hardens. Therefore, no waste treatment process occurs at this unit. As the material cures, the drums are kept covered. At the time of the PA/VSI, the resins had cured, and PRC did not notice any free materials to be present. The potential for releases to ground water, surface water, air, and on-site soils is low.

##### Recommendations:

PRC recommends the facility arrange for proper disposal of the drums containing hardened resin on site.

### SWMU 2

#### Current Hazardous Waste Accumulation Area

##### Conclusions:

This unit consists of a 10-foot by 10-foot area on the western side of the Chemical Product Storage Building. Until 1985 or 1986, waste MEK (F005) was accumulated in 55-gallon drums in the unit. The drums were stored indoors on a concrete floor. Sancap Abrasives and Sancap Liner stated that since all hazardous waste is recycled on site, the hazardous waste storage area is no longer used. The building contains numerous

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product drums used by both Sancap Abrasives and Sancap Liner. PRC observed oil-type stains throughout the building. The room has a powered ventilation system to prevent the buildup of flammable vapors. The potential for release to ground water, surface water, air, and on-site soils is low.

Recommendations: PRC recommends no further action for this unit.

**SWMU 3                      Settling Lagoons**

Conclusions: SIA discharged wastewater from equipment cleanups into a series of unlined settling lagoons. The wastewater was initially discharged to the receiving lagoon (Lagoon 1). The wastewater was then discharged along with wastewater from the rain collection lagoon (Lagoon 3) into the discharge lagoon (Lagoon 2). The wastewater from the discharge lagoon was then discharged to the City of Alliance sanitary sewer system. A fourth lagoon (Lagoon 4) was also present, but was only used occasionally to provide soil for berm construction and dilution water. Sancap Abrasives is currently proceeding with non-RCRA closure of this unit.

Ground Water: Low. Sancap stopped using the Settling Lagoons in 1987. Ground-water sampling downgradient of the Settling Lagoons did not indicate elevated concentrations of constituents found in the Settling Lagoon sediment. The soil in the area has low permeability to prevent release to ground water and surface water.

Surface Water: Low. Sancap stopped using the Settling Lagoons in 1987. All the lagoons are bermed to prevent overflow. The soil in the area has low permeability to prevent release to ground water and surface water.

Air: Low. The wastes managed in the Settling Lagoons consisted of constituents dissolved in an aqueous solution. These contaminants would not have a high vapor pressure or potential to release to the air.

On-Site Soils: A release to on-site soils has occurred from this unit. Soil sampling and analyses by Lancy of lagoon sediment and water was conducted in 1988, which indicated that the receiving and discharge lagoons (Lagoons 1 and 2) contained elevated concentrations of phenol,

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total organic carbon, and barium. Lancy concluded that these were caused by residual wastes. Elevated levels of sulfide found in the dilution lagoons were attributed to natural swamplike conditions at the unit.

Recommendations: PRC recommends the facility continue with closure proceedings under the OEPA guidance.

**SWMU 4                      Wastewater Sumps**

Conclusions: This unit consists of three outdoor, underground, lined, concrete sumps that are used to collect wastewater from cleanups of the abrasive coating line. The wastewater is gravity-fed to a lined underground concrete central sump. From 1977 to 1988, this wastewater was pumped to the Settling Lagoons (SWMU 3). From 1988 to the present, this wastewater has been discharged to the Wastewater Pretreatment Unit (SWMU 5). The sumps are lined to prevent releases to ground water and on-site soils. The sumps are covered to prevent releases to the air. Discharge is below ground level to prevent direct discharges to surface water. The potential for release to ground water, surface water, air, and on-site soils for this unit is low.

Recommendations: PRC recommends no further action for this unit.

**SWMU 5                      Wastewater Pretreatment Unit**

Conclusions: This unit consists of a 1,500-gallon aboveground fiberglass tank that is located indoors above a concrete floor. Wastewater from the center sump (SWMU 4) is pumped to the unit where the pH adjustment, if necessary, to meet the facility's discharge limit of 6 to 10. The Sancap Abrasive facility discharges wastewater from the Wastewater Pretreatment Unit (SWMU 5) under City of Alliance Permit Number 216-A. The tank is located aboveground, so leaks from the tanks would be detected. The tank is located in a dedicated concrete room with a concrete floor to manage potential leaks. The potential for release to ground water, surface water, air, and on-site soils is low for this unit.

Recommendations: PRC recommends no further action for this unit.

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**SWMU 6****Abrasive Roll-Off Box****Conclusions:**

This unit consists of a 40-cubic-yard Abrasive Roll-Off Box. The box manages trim from converting operations from Sancap Abrasives. The abrasive waste is inert and nonliquid. The box is located outdoors, is covered, and sits on a concrete pad. The potential for release to ground water, surface water, air, and on-site soils is low.

**Recommendations:**

PRC recommends no further action for this unit.

**SWMU 7****Still****Conclusions:**

This unit is located indoors on a concrete floor. The Still is used to recover waste methylene chloride (F002) from spent material generated during machine cleaning. The Still is located indoors on a concrete floor. Waste solvents are managed in 15-gallon quantities. The facility currently disposes of the still bottoms from this unit by putting them in the Liner Roll-Off Box (SWMU 9). The potential for release to ground water, surface water, air, and on-site soils is low.

**Recommendations:**

PRC recommends the facility manage and accumulate the waste methylene chloride still bottoms (F002) from this unit as a hazardous waste.

**SWMU 8****Used Oil Storage Drum****Conclusions:**

This unit manages used oil from QRM in a closed, 55-gallon drum that is located indoors on a concrete floor. Waste is managed in less than 55-gallon quantities. The drum is kept closed when waste is not being added. The potential for release from this unit to ground water surface water, air, and on-site soils is low.

**Recommendations:**

PRC recommends no further action for this unit.

**SWMU 9****Liner Roll-Off Box****Conclusions:**

This unit consists of a 40-cubic-yard roll-off box. The Liner Roll-Off Box is located outdoors on a concrete pad and is covered. The Liner Roll-

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Off Box manages waste trim from Sancap Liner. According to the Sancap Liner facility representative, when the Still (SWMU 7) is cleaned about once a year and the methylene chloride still bottoms (F002) are thrown into the Liner Roll-Off Box for disposal. The Liner Roll-Off Box is emptied twice per week and its contents are transported by Max Disposal to their transfer facility in Alliance, Ohio. The waste is landfilled at one of the following landfills: G & G Landfill in Carrollton, Ohio; American Landfill in Malvern, Ohio; and Kimbell Landfill in Dover, Ohio. The methylene chloride still bottoms (F002) are not properly managed as hazardous waste. The potential for release to ground water, surface water, and on-site soils is low.

Air: Moderate to high. Methylene chloride still bottoms (F002) are disposed of into SWMU 9. Any entrained liquid could be volatilized and released because SWMU 9 is not sealed.

Recommendations: The facility should manage and dispose of the methylene chloride still bottoms (F002) as a hazardous waste.

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**TABLE 3**  
**SWMU SUMMARY**

<u>SWMU</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
1. Former Regulated Hazardous Waste Storage Area	1980 to 1983	None	Facility should arrange for proper disposal of hardened resin drums.
2. Current Hazardous Waste Accumulation Area	1983 to 1985 or 1986	None	No further action
3. Settling Lagoons	1977 to 1987	Soil sampling of lagoon sediment indicated elevated concentrations of phenol, total organic carbon, and barium.	Facility should continue with closure activities
4. Wastewater Sumps	1977 to present	None	No further action
5. Wastewater Pretreatment Unit	1988 to present	None	No further action
6. Abrasive Roll-Off Box	1985 to present	None	No further action
7. Still	1985 or 1986 to present	None	Facility should manage and accumulate methylene chloride still bottoms (F002) as a hazardous waste
8. Used Oil Storage Drum	1992 to present	None	No further action
9. Liner Roll-Off Box	1985 to present	Potential release to air	Facility should manage and dispose of methylene chloride still bottoms (F002) as a hazardous waste

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**ATTACHMENT A**  
**VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS**

## VISUAL SITE INSPECTION SUMMARY

Sancap Abrasives, Inc. (Sancap Abrasives)  
16123 Armour Street  
Alliance, Ohio 44601  
OHD 093 289 700

Date: October 27, 1992

Primary Facility Representative: Gail Kittleson, Operations Manager, Sancap Abrasives  
Representative Telephone No.: (800) 433-6663  
Additional Facility Representatives: Robert Stuhlmiller, President, Sancap Abrasives and Sancap Liner, Inc.

Inspection Team: Cathy M. Collins, PRC Environmental Management, Inc.  
(PRC)  
Hans Upadhyay, PRC

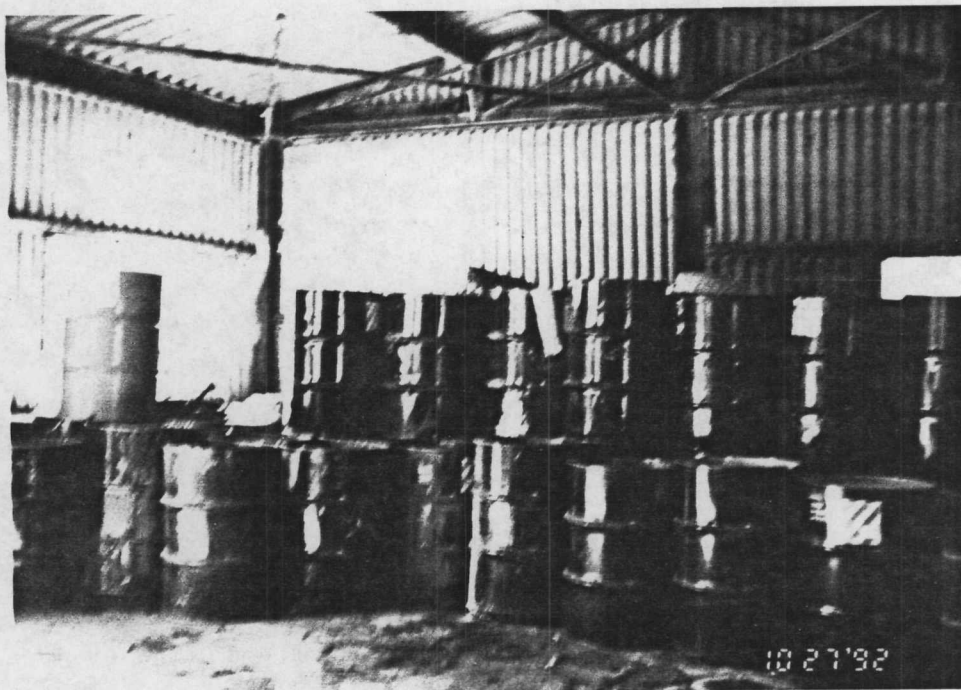
Photographer: Cathy M. Collins

Weather Conditions: Foggy, calm, 50 °F

Summary of Activities: The visual site inspection (VSI) began at 9:00 a.m. with an introductory meeting. The inspection team explained the purpose of the VSI and the agenda for the visit. Facility representatives then discussed the facility's past and current operations, solid wastes generated, and release history. Facility representatives provided the inspection team with copies of requested documents.

The VSI tour began at 10:45 a.m. PRC inspected the following areas: Former Regulated Hazardous Waste Storage Area (SWMU 1); Current Hazardous Waste Accumulation Area (SWMU 2); Settling Lagoons (SWMU 3); Wastewater Sumps (SWMU 4); Wastewater Pretreatment Unit (SWMU 5); Abrasive Roll-Off Box (SWMU 6); Still (SWMU 7); Used Oil Storage Drum (SWMU 8); and Liner Roll-Off Box (SWMU 9).

The tour concluded at 12:45 p.m., after which the inspection team held an exit meeting with the facility representatives. The VSI was completed and the inspection team left the facility at 1:30 p.m.



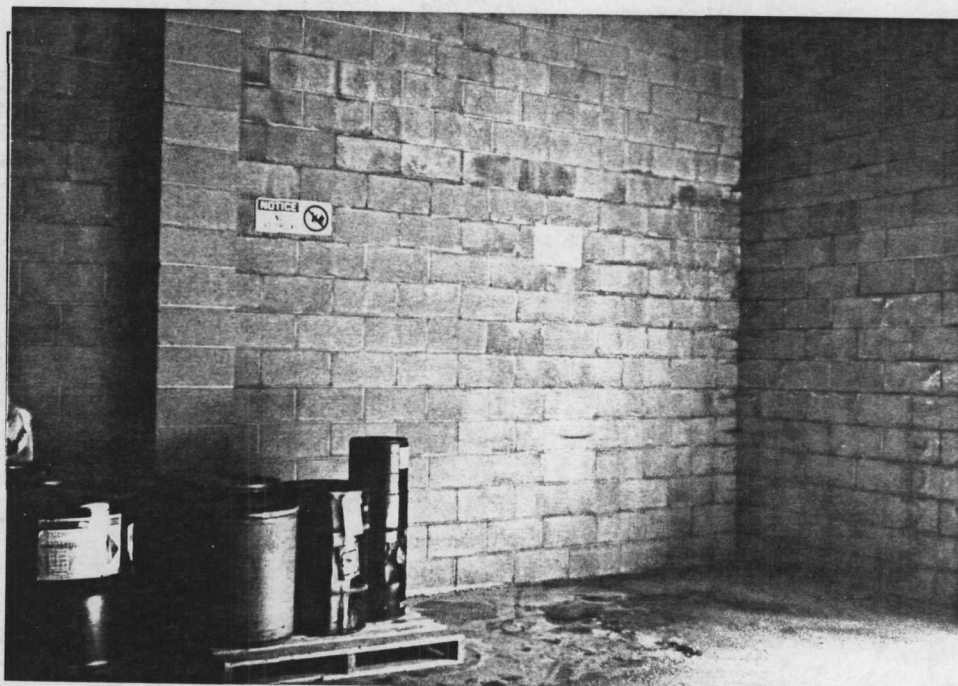
Photograph No. 1

Orientation: West

Description: Former Regulated Hazardous Waste Storage Area; this shows about 120 55-gallon drums of waste hardened resin left by SIA

Location: SWMU 1

Date: 10/27/92



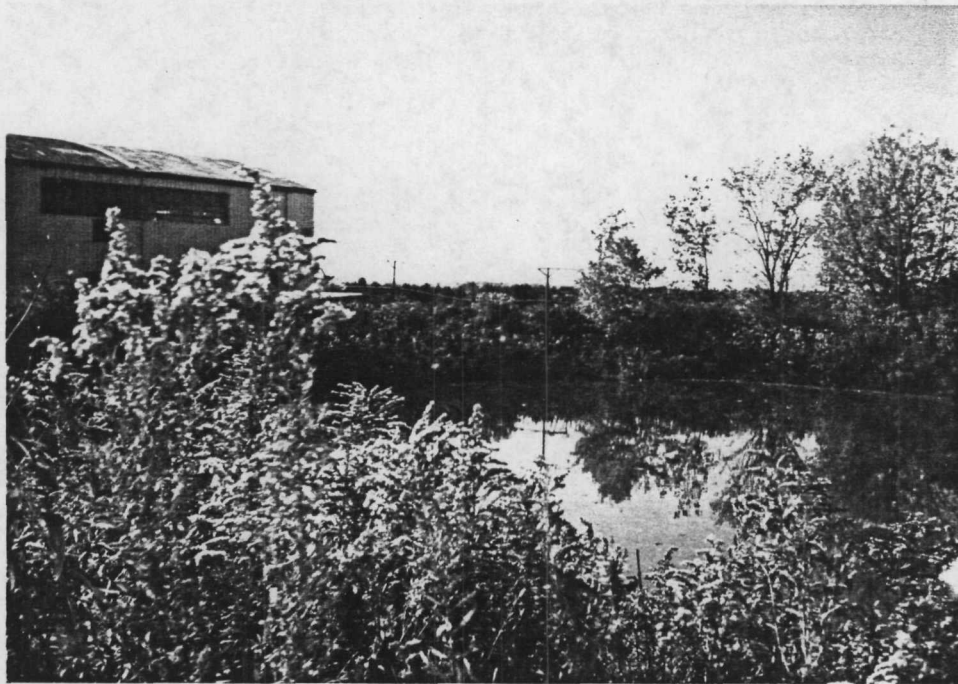
Photograph No. 2

Orientation: East

Description: Current Hazardous Waste Accumulation Area; no hazardous waste on site; note oil-type stains from product storage which takes place in this building

Location: SWMU 2

Date: 10/27/92



Photograph No. 3  
 Orientation: East  
 Description: Settling Lagoon; receiving lagoon (Lagoon 1)

Location: SWMU 3  
 Date: 10/27/92



Photograph No. 4  
 Orientation: Northwest  
 Description: Settling Lagoon; discharge lagoon (Lagoon 2)

Location: SWMU 3  
 Date: 10/27/92



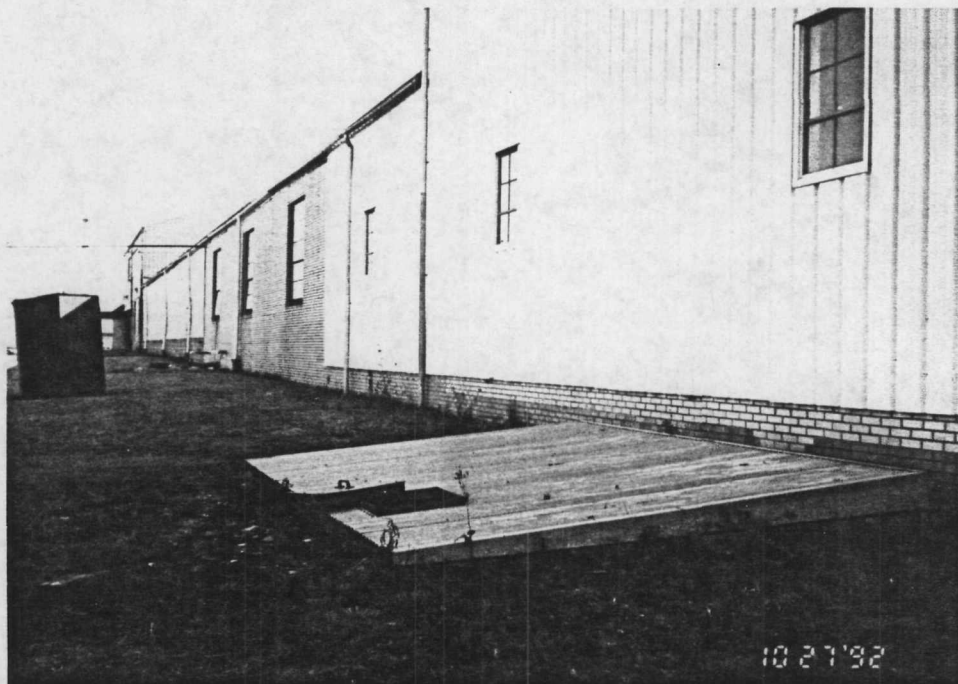
Photograph No. 5  
 Orientation: Southwest  
 Description: Settling Lagoon; rain water collection lagoon (Lagoon 3)

Location: SWMU 3  
 Date: 10/27/92



Photograph No. 6  
 Orientation: East  
 Description: Settling Lagoon; this lagoon was a source of soil for berm construction and was occasionally used for dilution water (Lagoon 4)

Location: SWMU 3  
 Date: 10/27/92



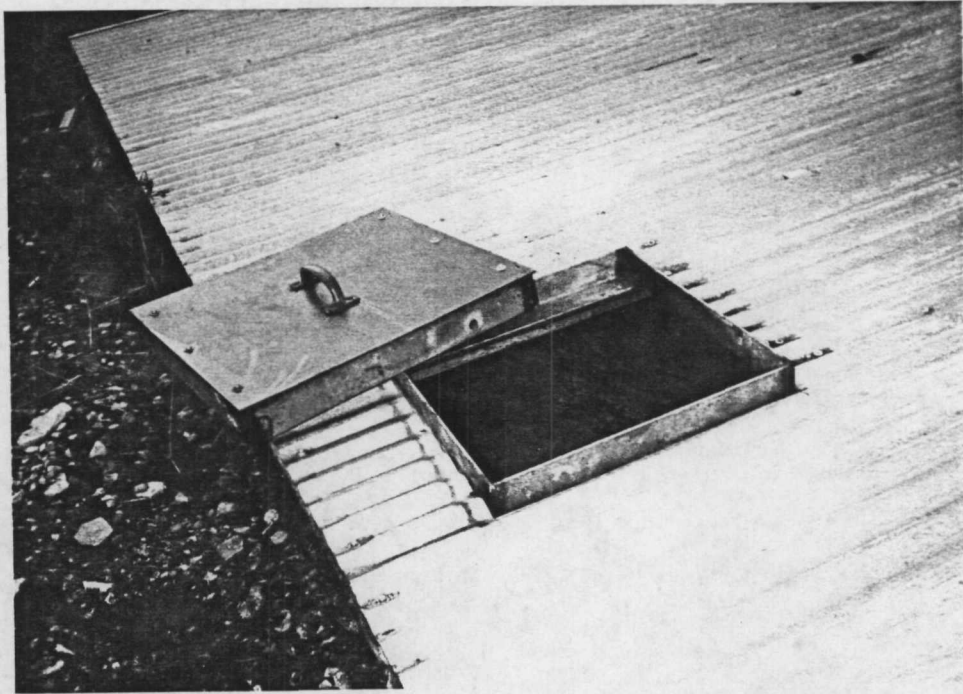
Photograph No. 7  
 Orientation: Southeast  
 Description: Wastewater Sumps; west sump

Location: SWMU 4  
 Date: 10/27/92



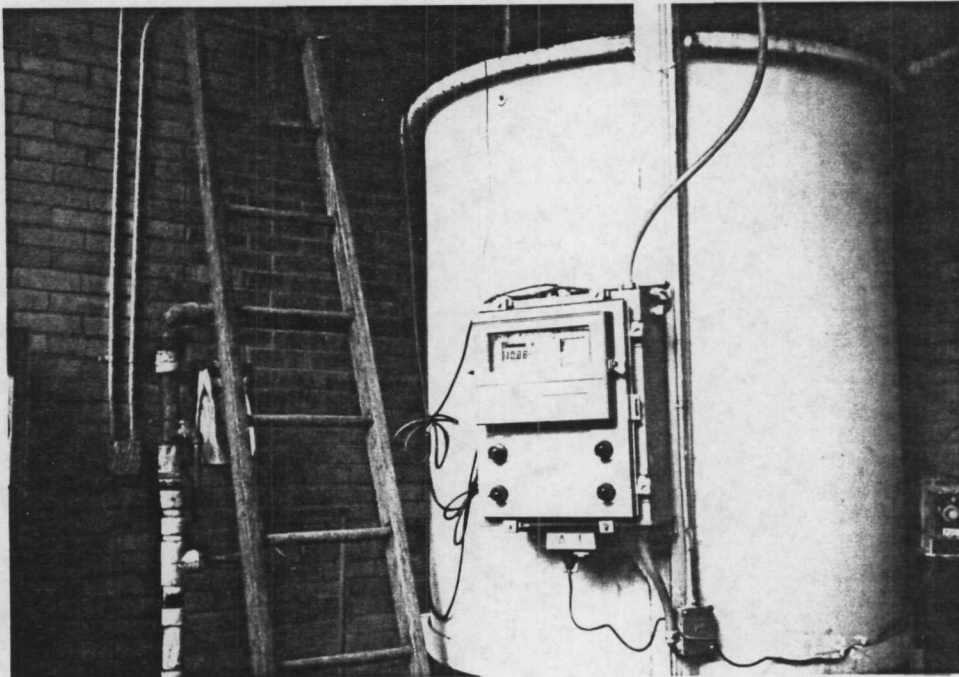
Photograph No. 8  
 Orientation: East  
 Description: Wastewater Sumps; center sump

Location: SWMU 4  
 Date: 10/27/92



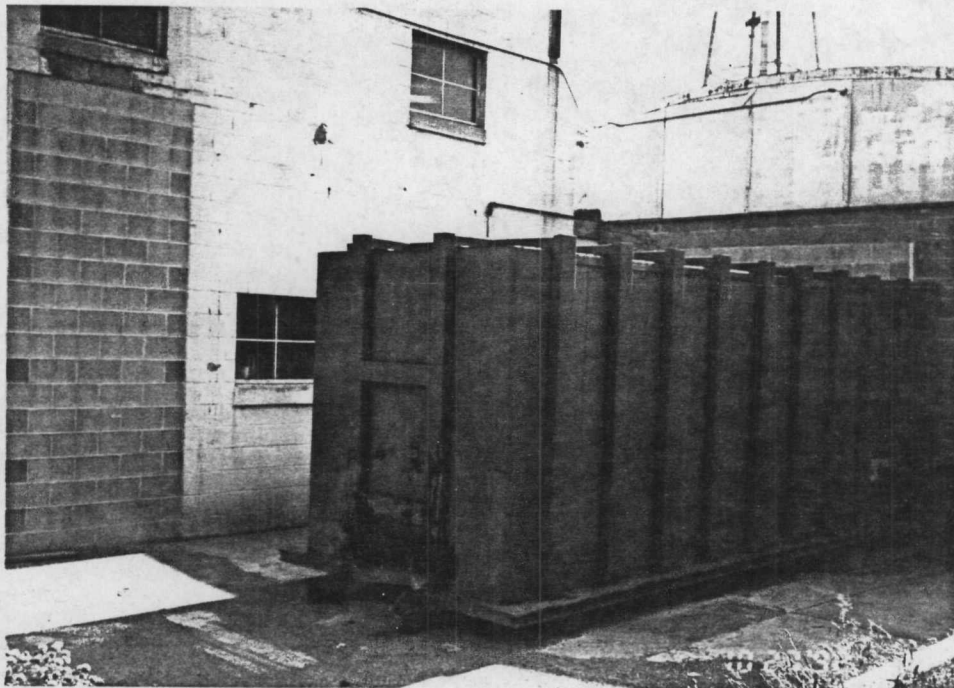
Photograph No. 9  
 Orientation: West  
 Description: Wastewater Sumps; wastewater in west sump

Location: SWMU 4  
 Date: 10/27/92



Photograph No. 10  
 Orientation: Northwest  
 Description: Wastewater Pretreatment Unit; fiberglass tank above a concrete floor

Location: SWMU 5  
 Date: 10/27/92



Photograph No. 11

Orientation: Southeast

Description: Abrasive Roll-Off Box; covered box located on a concrete pad

Location: SWMU 6

Date: 10/27/92



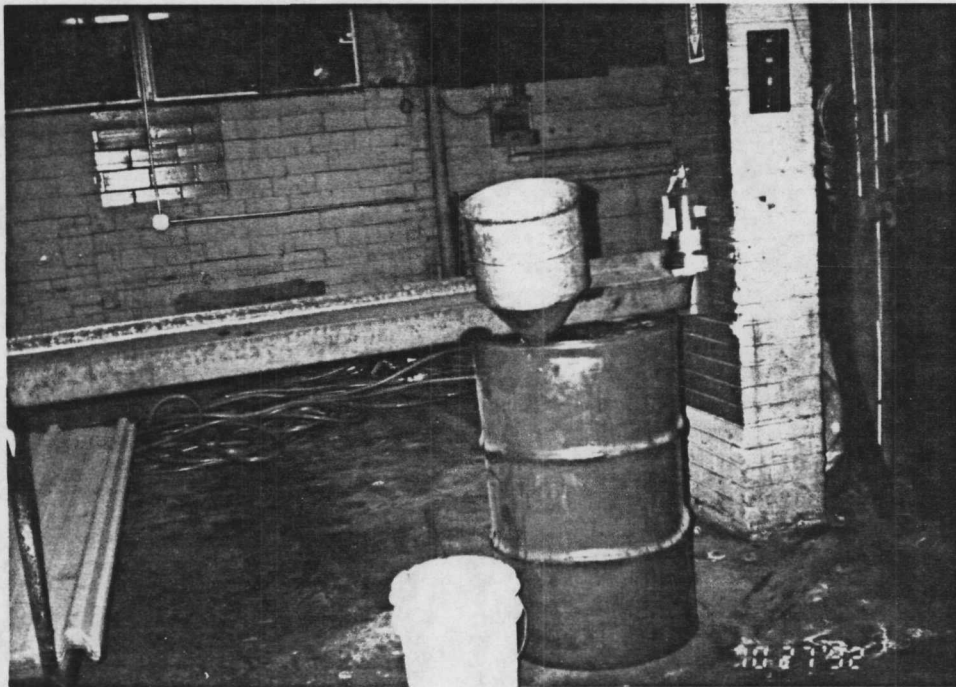
Photograph No. 12

Orientation: North

Description: Still; the still is the blue box on a concrete floor; containers and drums in the area store product

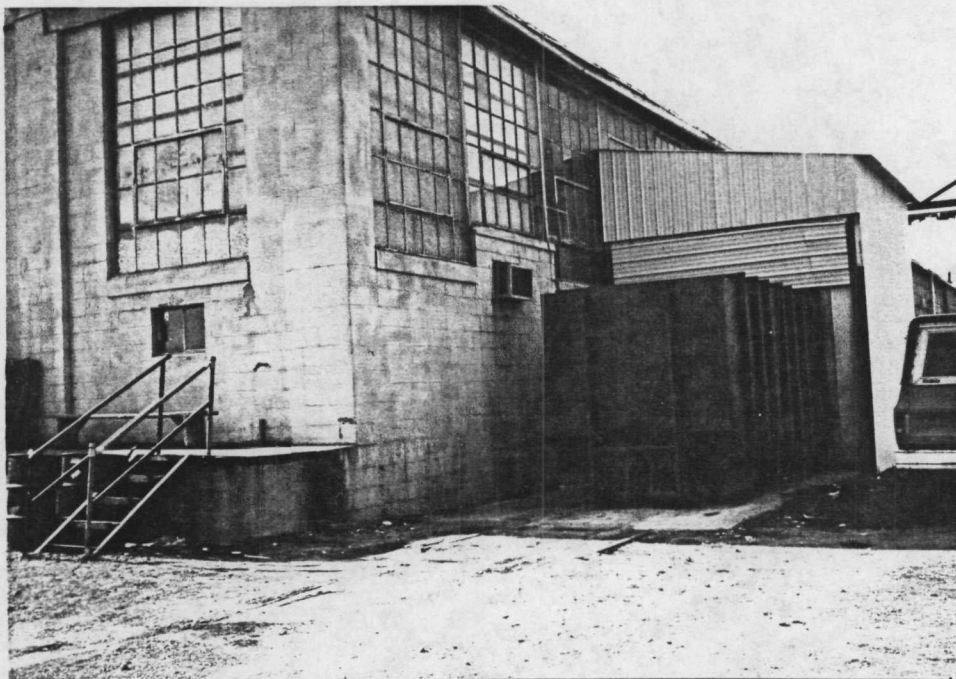
Location: SWMU 7

Date: 10/27/92



Photograph No. 13  
 Orientation: North  
 Description: Used Oil Storage Drum; 55-gallon drum on a concrete floor

Location: SWMU 8  
 Date: 10/27/92



Photograph No. 14  
 Orientation: West  
 Description: Liner Roll-Off Box; covered box on a concrete pad

Location: SWMU 9  
 Date: 10/27/92

**ATTACHMENT B**  
**VISUAL SITE INSPECTION FIELD NOTES**

①

SANCAP ABRASIVE  
ALLIANCE, OH.

DHD 093 289 700

OCTOBER 27, 1992

8:30 A.M. CALIF. <sup>FOREIGN, S.F.</sup>

MR. GAIL KITTLESON, CP

MR. BOB STUMMILLER,

OWNER

Taylor Craft went

Originally

Parkland

1948 ARMOUR - BT

Green - Green - CME

operated it

sold factory in

mid-60s - 1970

Greyhound - AKONA

Aeko - 1970

operated as

ARMAK - 2ND

②

Arnak abrasive

1978 SIA (Swiss)

renamed the company

Sancap <sup>3RD</sup> <sup>1981</sup> Alliance Corp

1986 A name to

SIA America

Liner - Food Liner

did not become SIA

became

1988 SIA sold

Sancap Liner technology

to Stummiller

1992 SIA sold

abrasive to Bob

Stummiller

2/4/92 Sancap

Abrasive - a -

(3)

Armour got involved  
in glue because  
they had an excess  
of animal parts.

Formerly the  
site was an  
airplane factory

upholstery operations.  
made abrasives  
from animal  
parts.

They have a  
hog hair pile

Facility

Manufacturers

Coated abrasives  
Paper, Cloth,  
use phenolic

resins, urea-formaldehyde  
resins

coat & dry in  
ovens and

cut into belts,  
sheets, etc.

Solid Waste

Trim from

abrasives go to  
landfill

- largest

(4)

(5)

hardened Resins -  
drums of  
solid waste  
to

Liquids go to  
settling tank  
to waste water  
treatment facility  
(pH treatment)

Employees 110  
in direct production

Excluding Supervisors:  
625,000 ft<sup>2</sup>  
including liner  
70,000 ft<sup>2</sup>  
including liner

(6)

280 acres  
- total in property

Underground  
Storage Tanks

were removed in  
the early 80's  
They had conducted  
inventory and  
pressure testing of  
the USTs prior  
they were removed

Oil AST  
Diked

⑦

Permits

Facility operates  
under NPDES  
permit 4 outfalls  
two are monitored  
OH 0063576

AIR PERMITS

Discharge Permit  
for Coating lines  
They had Two  
but one is not  
operational

OCEFA Permit to  
Operate as AIR  
Contaminant Source

⑧

Effective

11/8/91

TO 11/7/94

They have an  
80" x 45"  
L-permitted

Application

IS 76 00 0070

K 001

Some "Boilers"  
are actually  
GAS-FIRED FURNACES

Facility is  
probably conditionally  
exempt small  
quantity generator

(9)

City of  
Alliance  
Waste Discharge  
Permit Valid  
for both Liner  
& Abrasive Side  
Permit # 216-A  
March 92  
June 93  
Monitor for  
flow, pH 6-10  
BOD, COD  
T. MFT, Residue  
Mercury, T  
Phenol  
Zinc,

(10)

TRIM Waste  
to Compactor  
MAX Disposal  
WAS ~~to~~ <sup>some</sup> Landfilled  
at BFI in  
Willow Creek

Scrap Resin is  
manifested &  
sent to  
Permitted Landfill

Alliance OH 10 20, -25,000  
people  
Facility is located  
in Lexington  
Township

(11)

Facility Receives Four Shipments  
 D W from off site  
 Alliance which @ 61 drums  
 gets it from per shipment  
 Deer Creek Reservoir Each drum  
 surface Runoff weighs 5-600 lb  
 flows to Mahoney apiece  
 to Berlin Reservoir Hardened Drum  
 Resin Drums  
 Enviroco Transportation  
 Inc. Facility is partially  
 Waste Drums fenced  
 go to American No East West  
 Landfill, Inc. Fence  
 in Waynesburg No North South  
 Ohio Fence

Drums 500-600 lb  
 drum

South Webb & Armour  
 One House

(12)

(13)

~ 500' across  
the street

Primarily a wooded  
Area  
North east has a  
farm

Drinking  
wells on  
Street

The facility property  
is both in Mahoning  
and Stark counties

(14)

finer Side is  
all FDA approved  
since food applications

Facility says they  
have had no  
spills

Solid Waste  
Max Disposal

3 4.0 C.Y.  
Primarily trim  
from paper  
stock

Solvents used to  
clean up mixer  
they reuse solvent  
Solvents clean

(15)

coating pans  
1, 1, 1 trichloroethane  
& methylene  
chloride

Reuse Solvents  
on site

Facility Tour  
10:45

Primary Manufacture  
AREA

Generate Trim Waste

Drive Belts, Discs  
Shells

(16)

Belt Production  
Spliced Together  
& sliced into  
narrower sizes

cut different size  
Disks and shapes  
Considered Converting  
Operation

Waste Treatment  
Tank is in  
bldg house

(17)

Waste water  
Treatment Tank  
Main floor pH  
keep between  
6 and 12  
2,000 liter (500 gal)  
fiberglass tank  
No Drain  
Tank. Well  
above ground  
& discharges  
to sanitary  
sewer  
operated since  
86-87  
2 photos NW  
Some white stain  
on ground  
probably a deposit

(18)

On Concrete  
Floor  
INDOORS Ru  
15 by 20  
Sulfuric acid is  
used to maintain  
pH  
Coating Machine  
Bring Paper  
or Cloth on  
goes through Coating  
Roll where grain  
& adhesive  
deposits  
electrostatically  
goes through oven  
where after another layer  
of adhesive is  
deposited 80"  
to anchor the grain

(19)

the <sup>one</sup> product  
then goes thru  
another one

liquid washup <sup>and</sup> <sup>HO</sup>  
water goes  
into settling  
tanks

Lined tank  
2 side tanks

2 photos  
Wastewater  
sumps of  
lined with  
impervious liner

began operation  
from 1967

(20)

to lagoons  
Stopped using  
lagoon in E6  
to E7

These sumps  
gravity feed into  
Center Canal (sump)

Photo Middle  
Center Tank

Concrete

Man hole in

Center

Water is pumped

to treatment

Pump is

controlled by pH  
meter

Observation appeared  
to be soapy tho

(21)

High Chemical  
above

Monitoring  
Wells have  
been installed  
around here

Pond - S

Excavation  
TO CITY SEWER

Problem  
Pond

OK

4

2

N

inc

Not There

2 + 3 Were  
Probably active  
one

(22)

Unlined settling  
Pond

Approximately  
70' by 70'

Photo Orient E

Shows hose  
leading to  
Pond

Pipeline leading  
from to small Ponds  
TO CITY SEWER  
100' by 150 feet  
accumulate  
rainwater +  
Spring Water

(23)

Photo North

150' by 75'  
Water in the  
pond may be

5'  
Water came  
here 1st of  
went to pond  
northeast

Photo West

Other two  
ponds were  
used. Actually  
depressions  
caused by digging  
berms for the  
other two ponds

9<sup>east</sup>

(24)

Photo 'settling'  
Pond probably

not used  
Depression

Caused by excavation  
About 100' long  
by 50' wide  
Water & foliage

No SIGN OF  
Active Discharge  
Pumps Piping  
ETC.

All piping in  
the area looks  
in disrepair

(25)

AS T OIL  
Storage no longer  
used - 1972

Boiler supply  
heat bottles

4 plant heat  
also supply steam for mndr

Major coating  
line has its  
own gas fired  
boilers

2nd coating  
no permit  
being rebuilt

(26)

Hardened Resin  
Drum storage  
Area covered  
steel shed  
No Floor drains  
Concrete floor  
about 60' by 50'  
Photo West  
About 4 TO 5  
DEEP 14  
across by  $\frac{1}{3}$   
two high  
120 drums  
look solidified  
(cured) No  
Chemical odor  
This was generated  
by the people  
before the

(27)

Date of Operation  
Start unknown  
before '88

They stopped having  
a regular disposal  
time frame

He will mail  
sample analysis  
Results

Former Permitted  
Current Home  
Product Storage  
Area Concrete  
Floor

Off TYPE Stairs  
on floor

(28)

Concrete was  
put in place in  
seams

Product Drums  
are stored on  
pallets or on  
the ground  
Concrete block  
building is about  
100' by 60'

Solvent Waste AREA  
is 10' by 10'  
NO Drums are  
currently stored  
on site

(29)

Product In  
 Ethyl Acetate  
 IPA MEOH  
 Butyl Alcohol  
 Aluminum Chloride  
 MEK  
 Antino Resin  
 Solution  
 Photo OF  
 Drum Storage  
 ORIENT SL  
 MEK + Antino  
 Resin on Cap  
 liner  
 Nice Ventilation  
 System

(30)

Formerly  
 owned by Taylor  
 aircraft made  
 small observation  
 aircraft Abrasive  
~~3040~~ <sup>one</sup> c y ~~liner~~  
 Roll off  
 ORIENT SE  
 Manager Trash  
 & Yellow Buckets  
 On Concrete  
 No sign of  
 Spills or leaks  
 1985

Old airplane hangar  
 Old desks Unsuitable  
 product

(31)

Two Partially Filled  
liner drums

liner Side  
Roll off box

Photo ORIENT W  
240 C.Y. On  
Concrete Managed  
Solid Waste.  
On the East  
side of Plant  
No sign of spills  
or leaks

(32)

liner Ships out  
Rolls of Liners  
to the "People"  
who actually  
Stamp the bottle  
cap rolls  
Print Foam-  
Seal

Trim from Coating  
Goes into the  
Roll off box  
Primarily make lid  
liners

Melt Waxes  
and Coat the  
liners

(33)

QC primarily  
Weight IR  
Physical Tests

little still  
on concrete  
in compound  
Room

Photo ORIENT SW  
No sign of  
spills or leaks  
RMC

Distill Methylene  
Chloride cleaner  
& reuse methylene  
chloride

about 2x2  
by 3.5' high

(34)

Methylene Chloride  
Product Storage  
in this Room  
Concrete Floor

Finer Paper  
foam chip board  
waxes, coating  
adhesive,  
Polyvinyl acetate  
Paraffin

Then they coat or  
print. They  
also have hot  
melt for EVA  
Also have solvent  
mixer. provides  
certain vapor transmission

(35)

The liners must  
meet inversion tests

Suncap Abrasives, Inc.

Suncap Liner Technology, Inc.

Quality Repair and  
Maintenance

They generate  
~~some~~ oils, from  
forklift maintenance  
Safety - Kleen

Photo Hydraulic  
Oil 55 - Gallon  
Drum

on

(36)

Concrete floor  
minor oil type  
spill around the  
drum no sign  
of large release

END FACILITY TOUR  
12:45 PM

GW flow is SW.

PRC CONDUCTED  
A CLOSING CONFERENCE  
WITH GAIL KITTLESON  
AND CONFIRMED THE  
INFORMATION GATHERED DURING  
THE VSI. PRC ALSO REQUESTED  
ADDITIONAL INFORMATION  
TO BE SENT AT A:

(37)

LATER

DATE

PRC

OFF

SITE

1:30

Pm.

~~Callis M.~~

~~Callis~~

~~October 27  
1992~~

(38)

~~Callis M.~~  
~~Callis~~  
~~OCTOBER 27 1992~~

**ATTACHMENT C**  
**SETTLING LAGOONS GROUND-WATER ANALYTICAL RESULTS**



## ANALYSIS REPORT

SIA America, Inc.  
P.O. Box 2296  
Alliance, OH 44601-0216

Attention: Donald Monnot

Report Date 12/19/88 (Rev. 12/22/88\*\*)  
Sample Date 11/21/88 by CC  
Received 11/21/88 by FM  
Analyzed 11/21 - 12/16/88 by Staff  
No. of Samples 6  
Purchase Order # 29958

Project #20819

Sample #	Well 1	Well 2	Well 3	Well 4
Lab Reference #	<u>8110683</u>	<u>8110684</u>	<u>8110685</u>	<u>8110686</u>
	(mg/L)	(mg/L)	(mg/L)	(mg/L)
<u>Parameter</u>				
*pH (SU)	6.5	6.5	7.0	8.6
*Specific Conductance (umhos)	1980	>1990	>1990	>1990
Total Dissolved Solids	2500	4500	4000	3000
Oil and Grease	<2.0	<2.0	<2.0	<2.0
Biochemical Oxygen Demand	16	6.5	9.2	10
Chemical Oxygen Demand	42	13	20	22
Chloride	10	21	18	12
Cyanide, Total	0.01	<0.01	<0.01	<0.01
Phenols	0.012	<0.002	<0.002	0.017
Sulfate	1800	3100	2800	2300
Total Organic Carbon	17	17	13	13
Total Organic Halides	<0.010	0.030	<0.010	0.010
Antimony	<0.2	0.24	<0.2	<0.2
Arsenic	0.004	<0.002	<0.002	<0.01
Beryllium	<0.002	<0.002	<0.002	<0.002
Cadmium	<0.004	<0.004	<0.004	<0.004
Chromium	0.009	<0.006	0.006	0.007
Copper	0.01	<0.007	<0.007	<0.007
Iron	<0.006	0.22	0.17	0.07
Lead	<0.1	<0.1	<0.1	0.1
Manganese	<0.001	2.6	0.38	<0.001
Mercury	<0.0002	<0.0002	<0.0002	<0.0002
Nickel	<0.02	<0.02	<0.02	<0.02
Selenium	0.009	0.015	0.019	0.050
Silver	<0.01	<0.01	<0.01	<0.01
Sodium	225	130	210	330
Thallium	<0.3	43	28	<0.3
Zinc	<0.05	<0.05	<0.05	<0.05
Polychlorinated Biphenyls (µg/L)	<1.0	<1.0	<1.0	<1.0

\*Field Measurement

\*\*Revised to show arsenic results.

  
C. John Fitzert, Manager-Technical Operations



## ANALYSIS REPORT

SIA America, Inc.

12/19/88  
29958

Project #20819

Sample #	Well 1	Well 2	Well 3	Well 4
Lab Reference #	8110683	8110684	8110685	8110686
	(µg/L)	(µg/L)	(µg/L)	(µg/L)

### Acid Extractables

4-Chloro-3-methylphenol	<10	<10	<10	<10
2-Chlorophenol	<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10	<10	<10
2,4-Dimethylphenol	<10	<10	<10	<10
4,6-Dinitro-o-cresol	<50	<50	<50	<50
2,4-Dinitrophenol	<50	<50	<50	<50
2-Nitrophenol	<10	<10	<10	<10
4-Nitrophenol	<50	<50	<50	<50
Pentachlorophenol	<50	<50	<50	<50
Phenol	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10

### Base Neutrals

	(µg/L)	(µg/L)	(µg/L)	(µg/L)
Acenaphthene	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10
Benzo(a)anthracene	<10	<10	<10	<10
Benzidine	<50	<50	<50	<50
Benzo(b)fluoranthene	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10
Benzo(ghi)perylene	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	<10	<10	<10	<10
Bis(2-chloroethyl)ether	<10	<10	<10	<10
Bis(2-chloroisopropyl)ether	<10	<10	<10	<10
Bis(2-ethylhexyl)phthalate	<10	<10	<10	<10
4-Bromophenyl phenyl ether	<10	<10	<10	<10
Butyl benzyl phthalate	<10	<10	<10	<10
2-Chloronaphthalene	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10	<10
Di-n-butyl phthalate	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10
3,3'-Dichlorobenzidine	<20	<20	<20	<20

  
C. John Ritzert, Manager-Technical Operations



LANCY ENVIRONMENTAL SERVICES  
DIVISION LANCY INTERNATIONAL INC.  
An Alcoa Separations Technology Company



P.O. Box 419  
Pittsburgh, PA 15230-0419  
Phone (412) 772-0044 • FAX (412) 772-0055

## ANALYSIS REPORT

SIA America, Inc.

12/19/88  
29958

Project #20819

Sample #	Well 1	Well 2	Well 3	Well 4
Lab Reference #	8110683	8110684	8110685	8110686
	(µg/L)	(µg/L)	(µg/L)	(µg/L)
<u>Base Neutrals</u> (cont'd)				
Diethyl phthalate	<10	<10	<10	<10
Dimethyl phthalate	<10	<10	<10	<10
2,4-Dinitrotoluene	<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10	<10
Di-n-octyl phthalate	<10	<10	<10	<10
1,2-Diphenylhydrazine	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10
Fluorene	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10
Naphthalene	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10
N-Nitrosodimethylamine	<10	<10	<10	<10
N-Nitrosodiphenylamine	<10	<10	<10	<10
N-Nitrosodi-n-propylamine	<10	<10	<10	<10
Phenanthrene	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10
1,2,4-Trichlorobenzene	<10	<10	<10	<10
2,3,7,8-TCDD	ND	ND	ND	ND

ND = Not Detected

  
C. John Ritzert, Manager Technical Operations

**ANALYSIS REPORT**

SIA America, Inc.

12/19/88

29958

Project #20819

Sample #	Well 1	Well 2	Well 3	Well 4
Lab Reference #	8110683	8110684	8110685	8110686
	(µg/L)	(µg/L)	(µg/L)	(µg/L)
<u>Volatiles</u>				
Acrolein	<50	<50	<50	<50
Acrylonitrile	<50	<50	<50	<50
Benzene	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0
Bromomethane	<10	<10	<10	<10
Carbon tetrachloride	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0
Chloroethane	<10	<10	<10	<10
2-Chloroethylvinylether	<5.0	<5.0	<5.0	<5.0
Chloroform	<5.0	<5.0	<5.0	<5.0
Chloromethane	<10	<10	<10	<10
Dibromochloromethane	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0	<5.0
(trans)-1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0
Dichloromethane	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0
(cis)-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Ethyl benzene	<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	<5.0	<5.0	<5.0	<5.0
Toluene	<5.0	<5.0	<5.0	<5.0
Tribromomethane	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	<5.0	<5.0	<5.0	<5.0
Acetone	<10	<10	<10	110
Methyl Ethyl Ketone	<10	<10	<10	<10
Xylenes (total)	<5.0	<5.0	<5.0	<5.0

  
C. John Ritzert, Manager-Technical Operations



## ANALYSIS REPORT

SIA America, Inc.

12/19/88 (Rev. 12/22/88\*)  
29958

Project #20819

Sample # Lab Reference #	Equip. Blank <u>8110687</u> (mg/L)	Trip Blank <u>8110688</u> (mg/L)
<u>Parameter</u>		
pH (SU)	5.3	5.9
Specific Conductance (umhos)	7.0	1.0
Total Dissolved Solids	<1.0	<1.0
Oil and Grease	<2.0	<2.0
Biochemical Oxygen Demand	3.0	1.4
Chemical Oxygen Demand	2.5	<1.0
Chloride	<1.0	<1.0
Cyanide, Total	<0.01	<0.01
Phenols	0.017	<0.002
Sulfate	1.3	1.5
Total Organic Carbon	<1.0	2.9
Total Organic Halides	<0.010	<0.010
Antimony	<0.2	<0.2
Arsenic	<0.002	<0.002
Beryllium	<0.002	<0.002
Cadmium	<0.004	<0.004
Chromium	<0.006	<0.006
Copper	<0.007	<0.007
Iron	<0.006	<0.006
Lead	<0.1	<0.1
Manganese	<0.001	<0.001
Mercury	<0.0002	<0.0002
Nickel	<0.02	<0.02
Selenium	0.004	0.003
Silver	<0.01	<0.01
Sodium	<0.1	<0.1
Thallium	<0.3	<0.3
Zinc	<0.05	<0.05
Polychlorinated Biphenyls (µg/L)	<1.0	<1.0

\*Revised to show arsenic results.

  
C. John Ritzert, Manager Technical Operations



## ANALYSIS REPORT

SIA America, Inc.

12/19/88  
29958

Project #20819

Sample # Lab Reference #	Equip. Blank <u>8110687</u> (µg/L)	Trip Blank <u>8110688</u> (µg/L)
<u>Acid Extractables</u>		
4-Chloro-3-methylphenol	<10	<10
2-Chlorophenol	<10	<10
2,4-Dichlorophenol	<10	<10
2,4-Dimethylphenol	<10	<10
4,6-Dinitro-o-cresol	<50	<50
2,4-Dinitrophenol	<50	<50
2-Nitrophenol	<10	<10
4-Nitrophenol	<50	<50
Pentachlorophenol	<50	<50
Phenol	<10	<10
2,4,6-Trichlorophenol	<10	<10
<u>Base Neutrals</u>		
	(µg/L)	(µg/L)
Acenaphthene	<10	<10
Acenaphthylene	<10	<10
Anthracene	<10	<10
Benzo(a)anthracene	<10	<10
Benzidine	<50	<50
Benzo(b)fluoranthene	<10	<10
Benzo(k)fluoranthene	<10	<10
Benzo(ghi)perylene	<10	<10
Benzo(a)pyrene	<10	<10
Bis(2-chloroethoxy)methane	<10	<10
Bis(2-chloroethyl)ether	<10	<10
Bis(2-chloroisopropyl)ether	<10	<10
Bis(2-ethylhexyl)phthalate	<10	<10
4-Bromophenyl phenyl ether	<10	<10
Butyl benzyl phthalate	<10	<10
2-Chloronaphthalene	<10	<10
4-Chlorophenyl phenyl ether	<10	<10
Chrysene	<10	<10
Dibenzo(a,h)anthracene	<10	<10
Di-n-butyl phthalate	<10	<10
1,2-Dichlorobenzene	<10	<10
1,3-Dichlorobenzene	<10	<10
1,4-Dichlorobenzene	<10	<10
3,3'-Dichlorobenzidine	<20	<20

  
C. John Ritzert, Manager-Technical Operations



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## ANALYSIS REPORT

SIA America, Inc.

12/19/88  
29958

Project #20819

Sample # Lab Reference #	Equip. Blank 8110687 (µg/L)	Trip Blank 8110688 (µg/L)
<u>Base Neutrals</u> (cont'd)		
Diethyl phthalate	<10	<10
Dimethyl phthalate	<10	<10
2,4-Dinitrotoluene	<10	<10
2,6-Dinitrotoluene	<10	<10
Di-n-octyl phthalate	<10	<10
1,2-Diphenylhydrazine	<10	<10
Fluoranthene	<10	<10
Fluorene	<10	<10
Hexachlorobenzene	<10	<10
Hexachlorobutadiene	<10	<10
Hexachlorocyclopentadiene	<10	<10
Hexachloroethane	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10
Isophorone	<10	<10
Naphthalene	<10	<10
Nitrobenzene	<10	<10
N-Nitrosodimethylamine	<10	<10
N-Nitrosodiphenylamine	<10	<10
N-Nitrosodi-n-propylamine	<10	<10
Phenanthrene	<10	<10
Pyrene	<10	<10
1,2,4-Trichlorobenzene	<10	<10
2,3,7,8-TCDD	ND	ND

ND = Not Detected

  
C. John Ritzert, Manager-Technical Operations



## ANALYSIS REPORT

SIA America, Inc.

12/19/88  
29958

Project #20819

Sample # Lab Reference #	Equip. Blank 8110687 (µg/L)	Trip Blank 8110688 (µg/L)
<u>Volatiles</u>		
Acrolein	<50	<50
Acrylonitrile	<50	<50
Benzene	<5.0	<5.0
Bromodichloromethane	<5.0	<5.0
Bromomethane	<10	<10
Carbon tetrachloride	<5.0	<5.0
Chlorobenzene	<5.0	<5.0
Chloroethane	<10	<10
2-Chloroethylvinylether	<5.0	<5.0
Chloroform	<5.0	<5.0
Chloromethane	<10	<10
Dibromochloromethane	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0
(trans)-1,2-Dichloroethene	<5.0	<5.0
Dichloromethane	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0
(cis)-1,3-Dichloropropene	<5.0	<5.0
Ethyl benzene	<5.0	<5.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0
Tetrachloroethene	<5.0	<5.0
Toluene	<5.0	<5.0
Tribromomethane	<5.0	<5.0
1,1,1-Trichloroethane	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0
Trichloroethene	<5.0	<5.0
Vinyl chloride	<5.0	<5.0
Acetone	<10	<10
Methyl Ethyl Ketone	<10	<10
Xylenes (total)	<5.0	<5.0

  
C. John Ritzert, Manager-Technical Operations

**ATTACHMENT D**  
**HARDENED RESIN ANALYTICAL RESULTS**

1938-1988

**WADSWORTH/ALERT  
LABORATORIES, INC.**

Sampling, testing, mobile labs

4101 Shuffel Drive N.W. / North Canton, Ohio 44720

## **ANALYTICAL REPORT**

**Presented to :**

**KITTY LUCAS**

**SIA AMERICA**

**WADSWORTH/ALERT LABORATORIES, INC.**

*Marvin W. Stephens*

**Marvin W. Stephens, Ph.D.**

**Vice President & Corporate Technical Director**

**March 16, 1989**



**CORPORATE AND LABORATORY: North Canton, Ohio (216) 497-9396**  
**LABORATORY: Cleveland, Ohio (216) 642-9151**  
**LABORATORY: Bartow, Florida (813) 533-2150**  
**SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590**  
**24-HOUR ALERT LINE (216) 497-9338**



WADSWORTH/ALERT  
LABORATORIES, INC.

Explanation of Extractable Organic Halogens

The methodology for Total Organic Halogens in solids uses the terminology of Extractable Organic Halogens in describing the analysis. At this time samples received by Wadsworth/ALERT Laboratories requesting Total Organic Halogens on solids will be reported as Extractable Organic Halogens.



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : SIA AMERICA  
LAB #: 3580-10799  
MATRIX: SOLID

DATE RECEIVED: 2/21/89  
DATE EXTRACTED: 2/22/89  
DATE ANALYZED: 3/ 2/89

SAMPLE ID: SOLID SAMPLE RECEIVED 2/21/89

POLYCHLORINATED BIPHENYLS  
METHOD 8080 LIST - GC

---

PCB-1016	ND
PCB-1221	ND
PCB-1232	ND
PCB-1242	ND
PCB-1248	ND
PCB-1254	ND
PCB-1260	ND
PCB-1262	--

NOTE: ND (None Detected, lower detectable limit = 1 mg/kg) as rec  
ND\* (None Detected, lower detectable limit = mg/kg) as rec  
-- (Not Analyzed)

COMPANY : SIA AMERICA  
LAB #: 3580-10799  
MATRIX : SOLID

DATE RECEIVED: 2/21/89

SAMPLE ID : SOLID SAMPLE RECEIVED 2/21/89

**METALS ANALYTICAL REPORT  
SELECTED LIST**

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 3/ 6/89

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Silver	3/ 6- 3/ 9/89	ND	0.01	mg/l
Arsenic	3/ 6- 3/ 9/89	ND	0.005	mg/l
Barium	3/ 6- 3/ 9/89	1.1	0.01	mg/l
Cadmium	3/ 6- 3/ 9/89	ND	0.01	mg/l
Chromium	3/ 6- 3/ 9/89	ND	0.02	mg/l
Mercury	3/ 8- 3/10/89	ND	0.005	mg/l
Nickel	3/ 6- 3/ 9/89	ND	0.04	mg/l
Lead	3/ 6- 3/ 9/89	ND	0.05	mg/l
Selenium	3/ 6- 3/ 9/89	ND	0.005	mg/l

NOTE: ND (None Detected)

Initial pH	5.9	su
Final pH	4.8	su
Amount of acetic acid used per method	9	ml



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : SIA AMERICA  
LAB #: 3580-10799  
MATRIX : SOLID

DATE RECEIVED: 2/21/89

SAMPLE ID : SOLID SAMPLE RECEIVED 2/21/89

#### ANALYTICAL REPORT

Leachate testing in accordance with Method 1310 using deionized water as the extraction media with no pH adjustment.

DI EXTRACTION DATE : 3/ 1/89

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Cyanide	2/24/89	ND	0.5	mg/k
Extractable Organic Halogens	3/ 6/89	ND	2.5	mg/k
EP Cyanide(DI)	3/ 3/89	ND	0.005	mg/
EP Free Cyanide(DI)	3/ 3/89	ND	0.005	mg/
EP Fluoride(DI)	3/ 3/89	ND	0.1	mg/
Flash Point	2/22/89	>140		deg
Total Recoverable Phenolics	2/27- 2/28/89	3.6	0.2	mg/k
pH	2/22/89	6.0		s
Sulfide	2/22/89	ND	50	mg/k
Total Solids	2/23- 2/24/89	96	0.5	

NOTE: ND (None Detected)



WADSWORTH/ALERT  
LABORATORIES, INC.

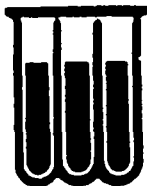
QUALITY CONTROL SECTION



WADSWORTH/ALERT  
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
890220	Polychlorinated Biphenyls	89	83	SOLID	( 51-131)
10799	Cyanide	90	98	WATER	( 45-120)
890221	Fluoride	90	90	WATER	( 76-126)
890227	Phenols	86	85	SOLID	( 44-152)
890217	Sulfide	73	72	SOLID	( 47-118)



WADSWORTH/ALERT  
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
890301	Arsenic	120	122	WATER	( 60-137)
890301	Barium	83	82	WATER	( 72-112)
890301	Cadmium	98	97	WATER	( 74-108)
890301	Chromium	86	80	WATER	( 74-110)
890301	Mercury	103	96	WATER	( 59-132)
890301	Lead	77	78	WATER	( 72-113)
890301	Selenium	69	70	WATER	( 45-106)
890224	Nickel	80	82	WATER	( 72-106)
890227	Silver	97	96	WATER	( 67-110)



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories  
LAB #: 9289-92222  
MATRIX: SOLID

DATE RECEIVED: 2/22/89  
DATE EXTRACTED: 2/22/89  
DATE ANALYZED: 3/ 6/89

SAMPLE ID: INTRA-LAB BLANK , 2 /22/89

POLYCHLORINATED BIPHENYLS  
ANALYTICAL BLANK REPORT

---

PCB-1016	ND
PCB-1221	ND
PCB-1232	ND
PCB-1242	ND
PCB-1248	ND
PCB-1254	ND
PCB-1260	ND
PCB-1262	--

NOTE: ND (None Detected, lower detectable limit = 1 mg/kg) as rec'd  
ND\* (None Detected, lower detectable limit = mg/kg) as rec'd  
-- (Not Analyzed)



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.  
LABORATORY ID : 9089-90306  
SAMPLE MATRIX : WATER

RECEIVING DATE : 3/ 6/89

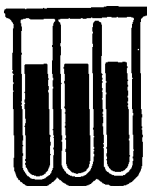
SAMPLE ID : INTRA-LAB BLANK , 3 /6 /89

**METALS ANALYTICAL BLANK REPORT**

---

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Silver	3/ 6- 3/ 8/89	ND	0.01 mg/l
Arsenic	3/ 6/89	ND	0.005 mg/l
Barium	3/ 6- 3/ 8/89	ND	0.01 mg/l
Cadmium	3/ 6- 3/ 8/89	ND	0.01 mg/l
Chromium	3/ 6- 3/ 8/89	ND	0.02 mg/l
Nickel	3/ 6- 3/ 8/89	ND	0.04 mg/l
Lead	3/ 6- 3/ 8/89	ND	0.05 mg/l
Selenium	3/ 6/89	ND	0.005 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.  
LABORATORY ID : 9089-90308  
SAMPLE MATRIX : WATER

RECEIVING DATE : 3/ 8/89

SAMPLE ID : INTRA-LAB BLANK , 3 /8 /89

**METALS ANALYTICAL BLANK REPORT**

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<b>ELEMENT</b>	<b>PREPARATION - ANALYSIS DATE</b>	<b>RESULT</b>	<b>DETECTION LIMIT</b>
Mercury	3/ 8- 3/10/89	ND	0.005 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories  
LAB #: 9089-90222  
MATRIX : WATER

DATE RECEIVED: 2/22/89

SAMPLE ID : INTRA-LAB BLANK , 2 /22/89

GENERAL ANALYTICAL BLANK REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Biochemical Oxygen Demand	2/22- 2/27/89	ND	2 mg/l
Chloride	2/22/89	ND	2 mg/l
Cyanide	2/22/89	ND	0.005 mg/l
Chemical Oxygen Demand	2/22/89	ND	5 mg/l
Ammonia Nitrogen	2/22/89	ND	0.2 mg/l
Total Recoverable Phenolics	2/22/89	ND	0.01 mg/l
Sulfate	2/22/89	ND	5 mg/l
Sulfide	2/22/89	ND	1 mg/l
Total Kjeldahl Nitrogen	2/22- 2/23/89	ND	0.3 mg/l
Total Organic Carbon	2/22/89	ND	1 mg/l
Total Organic Halogen	2/22/89	ND	10 ug/l
Total Solids	2/22- 2/23/89	ND	0.5 %
Total Suspended Solids	2/22- 2/23/89	ND	5 mg/l

NOTE: ND (None Detected)



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories  
LAB #: 9089-90223  
MATRIX : WATER

DATE RECEIVED: 2/23/89

SAMPLE ID : INTRA-LAB BLANK , 2 /23/89

### GENERAL ANALYTICAL BLANK REPORT

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PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Biochemical Oxygen Demand	2/23- 2/28/89	ND	2 mg/l
Cyanide	2/23/89	ND	0.005 mg/l
Fecal Coliform	2/23- 2/24/89	ND	10 /100 ml
Ammonia Nitrogen	2/23/89	ND	0.2 mg/l
Oil and Grease	2/23/89	ND	1 mg/l
Total Organic Nitrogen	2/23- 2/24/89	ND	0.2 mg/l
Phosphate Phosphorus	2/23/89	ND	0.1 mg/l
Sulfide	2/23/89	ND	1 mg/l
Total Kjeldahl Nitrogen	2/23- 2/24/89	ND	0.3 mg/l
Total Organic Carbon	2/23/89	ND	1 mg/l
Total Solids	2/23- 2/24/89	ND	0.5 %

NOTE: ND (None Detected)



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories  
LAB #: 9089-90224  
MATRIX : WATER

DATE RECEIVED: 2/24/89

SAMPLE ID : INTRA-LAB BLANK , 2 /24/89

### GENERAL ANALYTICAL BLANK REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Acidity (CaCO <sub>3</sub> to pH 8.5)	2/24/89	ND	20	ueq/l
Alkalinity (CaCO <sub>3</sub> to pH 4.5)	2/24/89	ND	20	mg/l
Biochemical Oxygen Demand	2/24- 3/ 1/89	ND	2	mg/l
Bromide	2/24/89	ND	0.2	mg/l
Cyanide	2/24/89	ND	0.005	mg/l
Chemical Oxygen Demand	2/24/89	ND	5	mg/l
Methylene Blue Active Substances	2/24/89	ND	0.1	mg/l
Ammonia Nitrogen	2/24/89	ND	0.2	mg/l
Oil and Grease	2/24/89	ND	1	mg/l
Residual Chlorine	2/24/89	ND	0.03	mg/l
Sulfite	2/24/89	ND	2	mg/l
Sulfide	2/24/89	ND	1	mg/l
Total Dissolved Solids	2/24- 2/27/89	ND	5	mg/l
Total Organic Carbon	2/24/89	ND	1	mg/l
Total Solids	2/24- 2/27/89	ND	0.5	%
Total Suspended Solids	2/24- 2/27/89	ND	5	mg/l

NOTE: ND (None Detected)



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories  
LAB #: 9089-90227  
MATRIX : WATER

DATE RECEIVED: 2/27/89

SAMPLE ID : INTRA-LAB BLANK , 2 /27/89

GENERAL ANALYTICAL BLANK REPORT

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PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Cyanide	2/27/89	ND	0.005	mg/l
Oil and Grease	2/27- 2/28/89	ND	1	mg/l
Total Recoverable Phenolics	2/27- 2/28/89	ND	0.01	mg/l
Total Dissolved Solids	2/27- 2/28/89	ND	5	mg/l
Total Organic Halogen	2/27/89	ND	10	ug/l
Total Solids	2/27- 2/28/89	ND	0.5	%
Total Suspended Solids	2/27- 2/28/89	ND	5	mg/l

NOTE: ND (None Detected)



WADSWORTH/ALERT  
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories  
LAB #: 9089-90303  
MATRIX : WATER

DATE RECEIVED: 3/ 3/89

SAMPLE ID : INTRA-LAB BLANK , 3 /3 /89

GENERAL ANALYTICAL BLANK REPORT

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PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Alkalinity (CaCO <sub>3</sub> to pH 4.5)	3/ 3/89	ND	20	mg/l
Biochemical Oxygen Demand	3/ 3- 3/ 8/89	ND	2	mg/l
Chloride	3/ 3/89	ND	2	mg/l
Cyanide	3/ 3/89	ND	0.005	mg/l
Fluoride	3/ 3/89	ND	0.1	mg/l
Hardness (CaCO <sub>3</sub> )	3/ 3/89	ND	5	mg/l
Methylene Blue Active Substances	3/ 3/89	ND	0.1	mg/l
Nitrite Nitrogen	3/ 3/89	ND	0.04	mg/l
Nitrate Nitrogen	3/ 3/89	ND	0.1	mg/l
Nitrate-Nitrite Nitrogen	3/ 3/89	ND	0.1	mg/l
Sulfite	3/ 3/89	ND	2	mg/l
Sulfate	3/ 3/89	ND	5	mg/l
Sulfide	3/ 3/89	ND	1	mg/l
Total Dissolved Solids	3/ 3- 3/ 6/89	ND	5	mg/l
Total Organic Carbon	3/ 3/89	ND	1	mg/l
Total Solids	3/ 3- 3/ 6/89	ND	0.5	%
Total Suspended Solids	3/ 3- 3/ 6/89	ND	5	mg/l

NOTE: ND (None Detected)